

#8

411USPHRM311.ST25.txt
SEQUENCE LISTING

<110> Vogeli, Gabriel
Lind, Peter
Wood, Linda S.
Parodi, Luis A.



<120> Novel G Protein Coupled Receptor

<130> 411USPHRM311

<140> 09/782,974

<141> 2001-03-27

<150> 60/165,838

<151> 1999-11-16

<150> 09/714,449

<151> 2000-11-16

<150> 60/198,568

<151> 2000-04-20

<150> 60/166,071

<151> 1999-11-17

<150> 60/166,678

<151> 1999-11-19

<150> 60/173,396

<151> 1999-12-28

<150> 60/184,129

<151> 2000-02-22

<150> 60/185,421

<151> 2000-02-28

<150> 60/185,554

<151> 2000-02-28

<150> 60/186,530

<151> 2000-03-02

<150> 60/186,811

<151> 2000-03-03

<150> 60/188,114

<151> 2000-03-09

<150> 60/190,310

<151> 2000-03-17

<150> 60/190,800

<151> 2000-03-21

<150> 60/201,190

<151> 2000-05-02

<150> 60/203,111

<151> 2000-05-08

<150> 60/207,094

<151> 2000-05-25

<160> 192

<170> PatentIn version 3.1

<210> 1

<211> 1182

<212> DNA

<213> Homo sapiens

<400> 1

```

gtctgggggt gggggatgct gggacagggg tcaattgcct gaagcaagtg ctctcatccc      60
cctagctcct gctgatctag ttggggctcc agagtgggga ggagaaaggc actttgaaac      120
ttctctgccc ttaccgtctt agccatcaaa ctctgagctg gagatagtga cgatgtgaca      180
ggaactttcc ctgggcctct ctgggccaca attcctggcc gagagaaaga ggaggaatga      240
ggtgagcacc ttcttcactc ctagggccat gtggtagagc tgcagtcgca cctccttctg      300
ccaataggca tagatgagtg ggttgagcag ggagttgccc acgccgagca gccacaggta      360
ccgttccagc actaggtaga ggtgacactc ctggcaggcc acctgcacaa tgccagtgat      420
aaggaagggg gtccaggata gagcaaagct cccaatgaga acagacacag tacggagagc      480
tttgaagtgc ctgggagtcg gtggggatcg ataacctcca gccatggctc ctgcatgttc      540
catcttttga atctgctggc tgtgcatgga ggcaatcttg agcatgtcgc agtagaagaa      600
gacaaagagg agcatggctg ggaagaagcc aacgcaggag agggtcagca cgaagtgagg      660
gtgaaataca gcaaagaagc tgactgccc tttgtaggca gtctgctgga acatggggat      720
tccgagtggg aggaagccaa tgaggaaga cactaaccac agcccggcaa tgcaggcccc      780
ggccacgaac ccactcatga tcttcaagta gcggaagggc tgcttgatgg caaggtacct      840
gtcaaagggt atcagcatga ccgtgaggac agaggcagct gcggaggaag tgacaaatgc      900
catccgcagg ctgcacaggg tcttctgtgt ggcccgagaa gggctggaga gctgggtctgt      960
gagtaggcca gagatggcca caccaatcaa ggtgtcagcc acagccagat tcaagggtgaa     1020
gcagagactg acaccatcat tcttgtggat caacagcagc acagccacag ccactagtgt     1080
gttagtagca atgatgaggg aggccaggac agcaaggatc actccaaatg agaaagatga     1140
ttccatgtct cgaagtggca ggacttcact taccagggca tg                          1182

```

<210> 2

<211> 335

<212> PRT

<213> Homo sapiens

<400> 2

```

Met Glu Ser Ser Phe Ser Phe Gly Val Ile Leu Ala Val Leu Ala Ser
1           5           10          15

```

```

Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
          20          25          30

```

411USPHRM311.ST25.txt

Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
 35 40 45
 Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
 50 55 60
 Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
 65 70 75 80
 Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
 85 90 95
 Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
 100 105 110
 Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
 115 120 125
 Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
 130 135 140
 Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
 145 150 155 160
 Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
 165 170 175
 Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
 180 185 190
 Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
 195 200 205
 Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
 210 215 220
 Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
 225 230 235 240
 Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
 245 250 255
 Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
 260 265 270
 Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
 275 280 285

411USPHRM311.ST25.txt

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
 290 295 300

Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
 305 310 315 320

Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
 325 330 335

<210> 3
 <211> 657
 <212> DNA
 <213> Homo sapiens

<400> 3
 cagcgcgagc gccttcatgg tgacggtgtc catgcgctgg cagtgtctgc gtgccacccg 60
 gtgcacctgg agcgagggtga ggcagagcac cgccagcggc agcacgaagc ccacggcatg 120
 gagcgtggcg gtgaaggctg cgaagcgcg acgctcaggc tcgggcgga ggcgcagcga 180
 acaggacgcg aaggcgctgc tgtagccaag ccacgagcag ccaagtgcag cgcctgagaa 240
 gccagcgac tgtccccagg cacagcccag cagcaggccg gcatagcgcg gtcgcaggcg 300
 tccggcgtag cgcagtggga agccactgc cagccactgg tctgcgctca gcgccgccac 360
 gctcagcgcc gcgttgagc ccaggaagg gtccaggaag ccaatgactt ggcatgcgcc 420
 gggcgccgac ggtgtccgcc cgcgcatcac accgagcagc gtgaaggga tgtccagcgc 480
 cgccagcagc aggtggccca gagacagatt caccaggagg acgcctgagg ctcgagtgcg 540
 gagctcagcg ctgtaggcgc aacaaagcag caccagtgcg ttggatagca gcgccacggc 600
 cagtaccatc accaggagac ccgccagcag cgcctcgccg gggcccatgg cgctagc 657

<210> 4
 <211> 217
 <212> PRT
 <213> Homo sapiens

<400> 4

Ser Ala Met Gly Pro Gly Glu Ala Leu Leu Ala Gly Leu Leu Val Met
 1 5 10 15

Val Leu Ala Val Ala Leu Leu Ser Asn Ala Leu Val Leu Leu Cys Cys
 20 25 30

Ala Tyr Ser Ala Glu Leu Arg Thr Arg Ala Ser Gly Val Leu Leu Val
 35 40 45

Asn Leu Ser Leu Gly His Leu Leu Leu Ala Ala Leu Asp Met Pro Phe
 50 55 60

Thr Leu Leu Gly Val Met Arg Gly Arg Thr Pro Ser Ala Pro Gly Ala

65 70 75 80
 Cys Gln Val Ile Gly Phe Leu Asp Thr Phe Leu Ala Ser Asn Ala Ala
 85 90 95
 Leu Ser Val Ala Ala Leu Ser Ala Asp Gln Trp Leu Ala Val Gly Phe
 100 105 110
 Pro Leu Arg Tyr Ala Gly Arg Leu Arg Pro Arg Tyr Ala Gly Leu Leu
 115 120 125
 Leu Gly Cys Ala Trp Gly Gln Ser Leu Ala Phe Ser Gly Ala Ala Leu
 130 135 140
 Gly Cys Ser Trp Leu Gly Tyr Ser Ser Ala Phe Ala Ser Cys Ser Leu
 145 150 155 160
 Arg Leu Pro Pro Glu Pro Glu Arg Pro Arg Phe Ala Ala Phe Thr Ala
 165 170 175
 Thr Leu His Ala Val Gly Phe Val Leu Pro Leu Ala Val Leu Cys Leu
 180 185 190
 Thr Ser Leu Gln Val His Arg Val Ala Arg Arg His Cys Gln Arg Met
 195 200 205
 Asp Thr Val Thr Met Lys Ala Leu Ala
 210 215

<210> 5
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 5
 tgtgcaggtg tgatctccat tcctttgtac atccctcaca cgctgttcga atgggatttt 60
 ggaaaggaaa tctgtgtatt ttggctcact actgactatc tgttatgtac agcatctgta 120
 tataacattg tcctcatcag ctatgatcga tacctgtcag tctcaaagtc tgtaagtcga 180
 acacattaat ttatccccct tagaagatta tgtaaagtga ta 222

<210> 6
 <211> 73
 <212> PRT
 <213> Homo sapiens

<400> 6

Cys Ala Gly Val Ile Ser Ile Pro Leu Tyr Ile Pro His Thr Leu Phe
 1 5 10 15

411USPHRM311.ST25.txt

Glu Trp Asp Phe Gly Lys Glu Ile Cys Val Phe Trp Leu Thr Thr Asp
 20 25 30

Tyr Leu Leu Cys Thr Ala Ser Val Tyr Asn Ile Val Leu Ile Ser Tyr
 35 40 45

Asp Arg Tyr Leu Ser Val Ser Asn Ala Val Ser Arg Thr His Phe Ile
 50 55 60

Pro Leu Arg Arg Leu Cys Lys Cys Ile
 65 70

<210> 7
 <211> 507
 <212> DNA
 <213> Homo sapiens

<400> 7
 gacgtcgaag caggtgatga tgcccagggc gtgcaccggg taggtgagat cgggtgcgcgc 60
 cagcggggac agggcgggtca ggagcagcag ccaggtccct gcacacgcgg ccaccgcgta 120
 acgacggcgg cgccagcgct tggagctgag cgggtacagg atccccagga agcgctccac 180
 gctgatacag gtcattggtga ggatgctgga atacatgttt gcgtaaaagg ccacgggtcac 240
 cacgttgcaa agcagcaccc cgaataccca gtggtggcgg ttgcaatggt agtagatttg 300
 gaaaggcaac acgtggcca gcatcaggtc cgtgacgctc aggttgatca tgaagatgac 360
 cgacggggat ctgggccccca tgcgccggca cagcaccac agagagaaga gggtgcccgg 420
 gatgctgacc gccgccacca gcgagtacac cacgggcagg gccaccgcga tcgccggggtt 480
 ccgcagcatc tgcagcgtcg cgttgtc 507

<210> 8
 <211> 169
 <212> PRT
 <213> Homo sapiens

<400> 8

Asp Asn Ala Thr Leu Gln Met Leu Arg Asn Pro Ala Ile Ala Val Ala
 1 5 10 15

Leu Pro Val Val Tyr Ser Leu Val Ala Ala Val Ser Ile Pro Gly Asn
 20 25 30

Leu Phe Ser Leu Trp Val Leu Cys Arg Arg Met Gly Pro Arg Ser Pro
 35 40 45

Ser Val Ile Phe Met Ile Asn Leu Ser Val Thr Asp Leu Met Leu Ala
 50 55 60

Ser Val Leu Pro Phe Gln Ile Tyr Tyr His Cys Asn Arg His His Trp

411USPHRM311.ST25.txt

[illegible]

```
<210> 9
<211> 270
<212> DNA
<213> Homo sapiens
```

<400>	9								
cccatgttcc	tgctcctggg	cagcctcacg	ttgtcggatc	tgctggcagg	cgccgcctac				60
gccgccaaca	tctactgtc	ggggccgctc	acgctgaaac	tgtcccccgc	gctctggttc				120
gcacggggagg	gaggcgctct	cgtggcactc	actgcgtccg	tgctgagcct	cctggggcatc				180
gcgctggagc	gcagcctcac	catggcgcgc	agggggcccg	cgcccgtctc	cagtcggggg				240
cgcacgctgg	cgatggcagc	cgcggcctgg							270

```
<210> 10
<211> 90
<212> PRT
<213> Homo sapiens
```

<400> 10

Pro Met Phe Leu Leu Leu Gly Ser Leu Thr Leu Ser Asp Leu Leu Ala
1 5 10 15

Gly Ala Ala Tyr Ala Ala Asn Ile Leu Leu Ser Gly Pro Leu Thr Leu
20 25 30

Lys Leu Ser Pro Ala Leu Trp Phe Ala Arg Glu Gly Gly Val Phe Val
35 40 45

Ala Leu Thr Ala Ser Val Leu Ser Leu Leu Gly Ile Ala Leu Glu Arg
50 55 60

Ser Leu Thr Met Ala Arg Arg Gly Pro Ala Pro Val Ser Ser Arg Gly
 65 70 75 80

Arg Thr Leu Ala Met Ala Ala Ala Ala Trp
 85 90

<210> 11
 <211> 888
 <212> DNA
 <213> Homo sapiens

<400> 11
 ctgctcattg tggcctttgt gctgggcgca ctaggcaatg gggtcgccct gtgtggtttc 60
 tgcttccaca tgaagacctg gaagcccagc actgtttacc ttttcaattt ggccgtggct 120
 gatttcctcc ttatgatctg cctgcctttt cggacagact attacctcag acgtagacac 180
 tgggcttttg gggacattcc ctgccgagtg gggctcttca cgttggccat gaacagggcc 240
 gggagcatcg tgttccttac ggtggtggct gcggacaggt atttcaaagt ggtccacccc 300
 caccacgcgg tgaacactat ctccaccggg gtggcggctg gcatcgtctg caccctgtgg 360
 gccctgggtca tcctgggaac agtgtatctt ttgctggaga accatctctg cgtgcaagag 420
 acggccgtct cctgtgagag cttcatcatg gagtccggca atggctggca tgacatcatg 480
 ttccagctgg agttctttat gccctcggc atcatcttat tttgctcctt caagattgtt 540
 tggagcctga ggcggaggca gcagctggcc agacaggctc ggatgaagaa ggcgaccgg 600
 ttcacatcatg tgggtggcaat tgtgttcatc acatgctacc tgcccagcgt gtctgctaga 660
 ctctatattcc tctggacggg gccctcgagt gcctgcgac cctctgtcca tggggccctg 720
 cacataaacc tcagcttcac ctacatgaac agcatgctgg atcccctggg gtattatttt 780
 tcaagcccct cctttcccaa attctacaac aagctcaaaa tctgcagtct gaaacccaag 840
 cagccaggac actcaaaaac acaaaggccg gaagagatgc caatttcg 888

<210> 12
 <211> 296
 <212> PRT
 <213> Homo sapiens

<400> 12

Leu Leu Ile Val Ala Phe Val Leu Gly Ala Leu Gly Asn Gly Val Ala
 1 5 10 15

Leu Cys Gly Phe Cys Phe His Met Lys Thr Trp Lys Pro Ser Thr Val
 20 25 30

Tyr Leu Phe Asn Leu Ala Val Ala Asp Phe Leu Leu Met Ile Cys Leu
 35 40 45

411USPHRM311.ST25.txt

Pro	Phe	Arg	Thr	Asp	Tyr	Tyr	Leu	Arg	Arg	Arg	His	Trp	Ala	Phe	Gly
50						55					60				
Asp	Ile	Pro	Cys	Arg	Val	Gly	Leu	Phe	Thr	Leu	Ala	Met	Asn	Arg	Ala
65					70					75					80
Gly	Ser	Ile	Val	Phe	Leu	Thr	Val	Val	Ala	Ala	Asp	Arg	Tyr	Phe	Lys
				85					90					95	
Val	Val	His	Pro	His	His	Ala	Val	Asn	Thr	Ile	Ser	Thr	Arg	Val	Ala
			100					105					110		
Ala	Gly	Ile	Val	Cys	Thr	Leu	Trp	Ala	Leu	Val	Ile	Leu	Gly	Thr	Val
		115					120					125			
Tyr	Leu	Leu	Leu	Glu	Asn	His	Leu	Cys	Val	Gln	Glu	Thr	Ala	Val	Ser
	130					135					140				
Cys	Glu	Ser	Phe	Ile	Met	Glu	Ser	Ala	Asn	Gly	Trp	His	Asp	Ile	Met
145					150					155					160
Phe	Gln	Leu	Glu	Phe	Phe	Met	Pro	Leu	Gly	Ile	Ile	Leu	Phe	Cys	Ser
				165					170					175	
Phe	Lys	Ile	Val	Trp	Ser	Leu	Arg	Arg	Arg	Gln	Gln	Leu	Ala	Arg	Gln
			180					185					190		
Ala	Arg	Met	Lys	Lys	Ala	Thr	Arg	Phe	Ile	Met	Val	Val	Ala	Ile	Val
		195					200					205			
Phe	Ile	Thr	Cys	Tyr	Leu	Pro	Ser	Val	Ser	Ala	Arg	Leu	Tyr	Phe	Leu
	210					215					220				
Trp	Thr	Val	Pro	Ser	Ser	Ala	Cys	Asp	Pro	Ser	Val	His	Gly	Ala	Leu
225					230					235					240
His	Ile	Thr	Leu	Ser	Phe	Thr	Tyr	Met	Asn	Ser	Met	Leu	Asp	Pro	Leu
				245					250					255	
Val	Tyr	Tyr	Phe	Ser	Ser	Pro	Ser	Phe	Pro	Lys	Phe	Tyr	Asn	Lys	Leu
			260					265					270		
Lys	Ile	Cys	Ser	Leu	Lys	Pro	Lys	Gln	Pro	Gly	His	Ser	Lys	Thr	Gln
		275					280					285			
Arg	Pro	Glu	Glu	Met	Pro	Ile	Ser								
	290					295									

411USPHRM311.ST25.txt

<210> 13
 <211> 510
 <212> DNA
 <213> Homo sapiens

<400> 13
 tggagctgtg ccaccaccta tctggtgaac ctgatggtgg ccgacctgct ttatgtgcta 60
 ttgcccttcc tcatcatcac ctactcacta gatgacaggt ggcccttcgg ggagctgctc 120
 tgcaagctgg tgcacttcct gttctatata aacctttacg gcagcatcct gctgctgacc 180
 tgcattctctg tgcaccagtt cctagggtgtg tgccaccac tgtgttcgct gccctaccgg 240
 acccgcaggc atgcctggct gggcaccagc accacctggg ccttggtggt cctccagctg 300
 ctgcccacac tggccttctc ccacacggac tacatcaatg gccagatgat ctggtatgac 360
 atgaccagcc aagagaattt tgatcggtt tttgcctacg gcatagttct gacattgtct 420
 ggctttcttt cctccttgg tcatTTTggT gtgctattca ctgatggtca ggagcctgat 480
 caagccagag gagaacctca tgaggacagg 510

<210> 14
 <211> 170
 <212> PRT
 <213> Homo sapiens

<400> 14

Trp Ser Cys Ala Thr Thr Tyr Leu Val Asn Leu Met Val Ala Asp Leu
 1 5 10 15

Leu Tyr Val Leu Leu Pro Phe Leu Ile Ile Thr Tyr Ser Leu Asp Asp
 20 25 30

Arg Trp Pro Phe Gly Glu Leu Leu Cys Lys Leu Val His Phe Leu Phe
 35 40 45

Tyr Ile Asn Leu Tyr Gly Ser Ile Leu Leu Leu Thr Cys Ile Ser Val
 50 55 60

His Gln Phe Leu Gly Val Cys His Pro Leu Cys Ser Leu Pro Tyr Arg
 65 70 75 80

Thr Arg Arg His Ala Trp Leu Gly Thr Ser Thr Thr Trp Ala Leu Val
 85 90 95

Val Leu Gln Leu Leu Pro Thr Leu Ala Phe Ser His Thr Asp Tyr Ile
 100 105 110

Asn Gly Gln Met Ile Trp Tyr Asp Met Thr Ser Gln Glu Asn Phe Asp
 115 120 125

Arg Leu Phe Ala Tyr Gly Ile Val Leu Thr Leu Ser Gly Phe Leu Ser

130

135

140

Leu Leu Gly His Phe Gly Val Leu Phe Thr Asp Gly Gln Glu Pro Asp
 145 150 155 160

Gln Ala Arg Gly Glu Pro His Glu Asp Arg
 165 170

<210> 15
 <211> 894
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (431)..(461)
 <223> n is any nucleotide

<220>
 <221> misc_feature
 <222> (790)..(818)
 <223> n is any nucleotide

<400> 15
 ccaccacgcg cagcacgccc acagggcctc tccctcccat tctcccgcag gcccgacga 60
 ccacgctgcc tccagccggt cggaacta gggcagctcg cagccacga acagcagccc 120
 cagcagctgg ctcatcttca ggctctgcac cttggcgcg ggcacgcgc tgggcgcacg 180
 ggctccacct gggctcgccg accaggccgc tgcacccgct ggggccttca gccggtgccg 240
 ccaccagacg gagagtaggt ggccacaagc gacacccatg atcttaacag gcgcgacgaa 300
 gcccgcgacg gcctcataga acgcgtacac ctgcacgtgc cagcgctgca ggagcgcgaa 360
 gatccagtgg cagcgacgca tccccggcca ggctcgggcg gagagtggcg cgcctggctg 420
 cagagacgtt nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nagtactagc gcaccacaaa 480
 ccccgacccc cgcgccagca gcagtgccag cagccagccc agggcgggcg gggcacgcgc 540
 gggcagcggc cggccgtgcg gaagacgcac cgcgcgccgg cgctcgaggg cgatgagcac 600
 cacgaggtgg gccgaggcgc cccgcccgga tgctgcagc agctgcagga agcggcacgc 660
 caggtccccc gtggccgcgc ggggctcgcc cagcagttcc caggccagct gtgacagcgc 720
 cgtgcccccg cagcgtaca ggtccgccag ggccagctgc accagcagga agtccatctt 780
 gcgacgcttn nnnnnnnnnn nnnnnnnnnn nnnnnnnnac aggcggcaca gcaactgtggt 840
 gttgcctgcc accgccacca ccaggatgac cccaggaac accaggcgga cgcg 894

<210> 16
 <211> 296
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (26)..(35)
 <223> Xaa is any amino acid

<220>
 <221> MISC_FEATURE
 <222> (144)..(154)
 <223> Xaa is any amino acid

<400> 16

Arg Val Arg Leu Val Phe Leu Gly Val Ile Leu Val Val Ala Val Ala
 1 5 10 15

Gly Asn Thr Thr Val Leu Cys Arg Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30

Xaa Xaa Xaa Lys Arg Arg Lys Met Asp Phe Leu Leu Val Gln Leu Ala
 35 40 45

Leu Ala Asp Leu Tyr Ala Cys Gly Gly Thr Ala Leu Ser Gln Leu Ala
 50 55 60

Trp Glu Leu Leu Gly Glu Pro Arg Ala Ala Thr Gly Asp Leu Ala Cys
 65 70 75 80

Arg Phe Leu Gln Leu Leu Gln Ala Ser Gly Arg Gly Ala Ser Ala His
 85 90 95

Leu Val Val Leu Ile Ala Leu Glu Arg Arg Arg Ala Val Arg Leu Pro
 100 105 110

His Gly Arg Pro Leu Pro Ala Arg Ala Leu Ala Ala Leu Gly Trp Leu
 115 120 125

Leu Ala Leu Leu Leu Ala Arg Gly Ser Gly Phe Val Val Arg Tyr Xaa
 130 135 140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Leu Gln Pro Gly
 145 150 155 160

Ala Pro Leu Ser Ala Arg Ala Trp Pro Gly Met Arg Arg Cys His Trp
 165 170 175

Ile Phe Ala Leu Leu Gln Arg Trp His Val Gln Val Tyr Ala Phe Tyr
 180 185 190

Glu Ala Val Ala Gly Phe Val Ala Pro Val Lys Ile Met Gly Val Ala
 195 200 205

411USPHRM311.ST25.txt

Cys Gly His Leu Leu Ser Val Trp Trp Arg His Arg Leu Lys Ala Pro
 210 215 220

Ala Gly Ala Ala Ala Trp Ser Ala Ser Pro Gly Gly Ala Arg Ala Pro
 225 230 235 240

Ser Ala Met Pro Arg Ala Lys Val Gln Ser Leu Lys Met Ser Gln Leu
 245 250 255

Leu Gly Leu Leu Phe Val Gly Cys Glu Leu Pro Phe Ala Asp Arg Leu
 260 265 270

Glu Ala Ala Trp Ser Ser Gly Pro Ala Gly Glu Trp Glu Gly Glu Ala
 275 280 285

Leu Ser Ala Cys Cys Ala Trp Trp
 290 295

<210> 17
 <211> 801
 <212> DNA
 <213> Homo sapiens

<400> 17
 tctaagt tttt tctctgaact ttgagcctgt gaaaaaagaa gggatgctgc ctcaggccac 60
 cccagcctag atactcactc tgagtgccat gaggtagtag aggacactga tgacagtcac 120
 ggggaggagg tagaatagga aggagggtgac ctggatgatg aaattgtaga tccacatggg 180
 cttgatgacc gtacaggttg ccgaacctgg gaccagggac ccattgggga agtagtgga 240
 cttgatgcca tggatgctgg tgttgggcag ggagaagagc acggagaagc cccagacgat 300
 gccgaggatc ctgaggggcc ggcgccgggt gctctgcagt ttggcgcgga acgggtgtag 360
 gatggccacg tagcgctcca cgctgacggt ggtgatgctg aggatggagg cgaagcacac 420
 ggtctcaaag agggccgtct tgaagtagca gccacgggc ccgaacaaga aagggtagtt 480
 gcgccacatc tcatagacct ccaggggcat tccaaggagc aggaccagga ggtagagac 540
 cgccaggctg aagaggtagt agttggtggg cgtcttcata gcctgggtgct gcagaatcac 600
 caggcacacc aggacattgc caatgacccc caccacaaa attggcacat acaccacaga 660
 cacggggagg aagaagtggc tgcgccgagg tccgcagagg aaggccagat actcctcgg 720
 gctgttcagg tgtttctgga atggatcttc tagtttctgc tggtagatcc aggaagcatt 780
 ctgaagtttt tccatccctg a 801

<210> 18
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 18

Ser Gly Met Glu Lys Leu Gln Asn Ala Ser Trp Ile Tyr Gln Gln Lys
 1 5 10 15

Leu Glu Asp Pro Phe Gln Lys His Leu Asn Ser Thr Glu Glu Tyr Leu
 20 25 30

Ala Phe Leu Cys Gly Pro Arg Arg Ser His Phe Phe Leu Pro Val Ser
 35 40 45

Val Val Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val Leu
 50 55 60

Val Cys Leu Val Ile Leu Gln His Gln Ala Met Lys Thr Pro Asn Thr
 65 70 75 80

Tyr Tyr Leu Phe Ser Leu Ala Val Ser Asp Leu Leu Val Leu Leu Leu
 85 90 95

Gly Met Pro Leu Glu Val Tyr Glu Met Trp Arg Asn Tyr Pro Phe Leu
 100 105 110

Phe Gly Pro Val Gly Cys Tyr Phe Lys Thr Ala Leu Phe Glu Thr Val
 115 120 125

Cys Phe Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg Tyr
 130 135 140

Val Ala Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg Arg
 145 150 155 160

Arg Ala Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu Phe
 165 170 175

Ser Leu Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe Pro
 180 185 190

Asn Gly Ser Leu Val Pro Gly Ser Ala Thr Cys Thr Val Ile Lys Pro
 195 200 205

Met Trp Ile Tyr Asn Phe Ile Ile Gln Val Thr Ser Phe Leu Phe Tyr
 210 215 220

Leu Leu Pro Met Thr Val Ile Ser Val Leu Tyr Tyr Leu Met Ala Leu
 225 230 235 240

Arg Val Ser Ile Ala Gly Val Ala Gly
 245

<210> 19
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 19
 atcaagatga tttttgctat cgtgcaaatt attggatttt ccaactccat ctgtaatccc 60
 attgtctatg catttatgaa tgaaaacttc aaaaaaatg ttttgtctgc agtttggtat 120
 tgcatagtaa ataaaacctt ctctccagca caaaggcatg gaaattcagg aattacaatg 180
 atgcggaaga aagcaaagtt ttccctcaga gagaatccag tg 222

<210> 20
 <211> 73
 <212> PRT
 <213> Homo sapiens

<400> 20

Ile Lys Met Ile Phe Ala Ile Val Gln Ile Ile Gly Phe Ser Asn Ser
 1 5 10 15

Ile Cys Asn Pro Ile Val Tyr Ala Phe Met Asn Glu Asn Phe Lys Lys
 20 25 30

Asn Val Leu Ser Ala Val Cys Tyr Cys Ile Val Asn Lys Thr Phe Ser
 35 40 45

Pro Ala Gln Arg His Gly Asn Ser Gly Ile Thr Met Met Arg Lys Lys
 50 55 60

Ala Lys Phe Ser Leu Arg Glu Asn Pro
 65 70

<210> 21
 <211> 447
 <212> DNA
 <213> Homo sapiens

<400> 21
 gccacagcat gcagttttct gtagaattcc actttgtctt tgcacttgaa gaagatgagg 60
 tatctggtga ccaggatcac cacatagaat aggaaccgtg aggtacatgt ggatgtgcag 120
 catggcactc acaaatttgc agaagggcag cccaaacatc caagtcttct tgatgaggta 180
 ggtcaagcga aatggcactg tcagcagaaa aacgctgtgg accaccacca agttaatgac 240
 cgccatggtg gtcactgacc ggggtgttcat tttcaccagg aggaaaagaa tggaaatgac 300
 acccaccagc ccgccaataa gactatgaa gtagaggctg attaagtggg gtgtcactat 360
 aggatcgcaa gaggaattcc tggaggattt gtggccaggc atacttggga agtcacctgg 420
 aggagaaaaa gcaccagagt aactgac 447

<210> 22
 <211> 149
 <212> PRT
 <213> Homo sapiens

<400> 22

Val Ser Tyr Ser Gly Ala Phe Ser Pro Pro Gly Asp Phe Pro Ser Met
 1 5 10 15

Pro Gly His Asn Thr Ser Arg Asn Ser Ser Cys Asp Pro Ile Val Thr
 20 25 30

Pro His Leu Ile Ser Leu Tyr Phe Ile Val Leu Ile Gly Gly Leu Val
 35 40 45

Gly Val Ile Ser Ile Leu Phe Leu Leu Val Lys Met Asn Thr Arg Ser
 50 55 60

Val Thr Thr Met Ala Val Ile Asn Leu Val Val Val His Ser Val Phe
 65 70 75 80

Leu Leu Thr Val Pro Phe Arg Leu Thr Tyr Leu Ile Lys Lys Thr Trp
 85 90 95

Met Phe Gly Leu Pro Phe Cys Lys Phe Val Ser Ala Met Leu His Ile
 100 105 110

His Met Tyr Leu Thr Val Pro Ile Leu Cys Gly Asp Pro Gly His Gln
 115 120 125

Ile Pro His Leu Leu Gln Val Gln Arg Gln Ser Gly Ile Leu Gln Lys
 130 135 140

Thr Ala Cys Cys Gly
 145

<210> 23
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 23

actgaccaag gtcagggcat cgactgaggc tagaaggcca caggaaatgc cagtcaaggt 60
 gttggcgctt gcaatcgac ctaccacaaa cttgaccggg ggcagggggg caggcccgcc 120
 agcgaacacg gtcagcagca ccagtccatt gcagagcacg gagagcaaca cgatggccca 180
 cacggccagg cggtgcccc agctttcaaa gaggtactca ca 222

<210> 24
 <211> 74

411USPHRM311.ST25.txt

<212> PRT

<213> Homo sapiens

<400> 24

Cys Glu Tyr Leu Phe Glu Ser Trp Gly Ile Arg Leu Ala Val Trp Ala
1 5 10 15

Ile Val Leu Leu Ser Val Leu Cys Asn Gly Leu Val Leu Leu Thr Val
20 25 30

Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro Val Lys Phe Val Val Gly
35 40 45

Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu
50 55 60

Ala Ser Val Asp Ala Leu Thr Leu Val Ser
65 70

<210> 25

<211> 246

<212> DNA

<213> Homo sapiens

<400> 25

aaccccatca tctacacgct caccaaccgc gacctgcgcc acgcgctcct gcgcctggtc 60
tgctgcggac gccactcctg cggcagagac ccgagtggct cccagcagtc ggcgagcgcg 120
gctgaggctt ccgggggcct gcgccgctgc ctgcccccg gccttgatgg gagcttcagc 180
ggctcggagc gctcatcgcc ccagcgcgac gggctggaca ccagcggctc cacaggcagc 240
cccgt 246

<210> 26

<211> 82

<212> PRT

<213> Homo sapiens

<400> 26

Asn Pro Ile Ile Tyr Thr Leu Thr Asn Arg Asp Leu Arg His Ala Leu
1 5 10 15

Leu Arg Leu Val Cys Cys Gly Arg His Ser Cys Gly Arg Asp Pro Ser
20 25 30

Gly Ser Gln Gln Ser Ala Ser Ala Ala Glu Ala Ser Gly Gly Leu Arg
35 40 45

Arg Cys Leu Pro Pro Gly Leu Asp Gly Ser Phe Ser Gly Ser Glu Arg
50 55 60

Ser Ser Pro Gln Arg Asp Gly Leu Asp Thr Ser Gly Ser Thr Gly Ser
65 70 75 80

Pro Gly

<210> 27
<211> 420
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (81)..(106)
<223> n is any nucleic acid

<400> 27
cgtgaagaac agcgccacca tgaccagcat gtgcaccacg cgcgctctgc gccgcgatgc 60
tcgcgggtcc gcagcctcct nnnnnnnnnn nnnnnnnnnn nnnnnntggc agagcttgcg 120
cgcgatgctg gcgtacatga ccacgatgag cgccagcggc gccaggtaga tgtgcgagaa 180
gagcacagtg gtgtagaccc tgcgcatgcc cttctcgggc caggcctccc agcaggagta 240
gagagggtag gagcgggtgc gggcgctccac catgaagtgg tgctcctcac gggtgacggt 300
cagcgtgacg gccgagggac acatgatgag cagcgccagg gccagatga cggcgatggt 360
gacgagcgcc ttccgcaggg tcagcttctc gcggaaggg tgcacgatgc agcggaacct 420

<210> 28
<211> 139
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (104)..(113)
<223> Xaa is any amino acid

<400> 28

Phe Arg Cys Ile Val His Pro Phe Arg Glu Lys Leu Thr Leu Arg Lys
1 5 10 15

Ala Leu Val Thr Ile Ala Val Ile Trp Ala Leu Ala Leu Leu Ile Met
20 25 30

Cys Pro Ser Ala Val Thr Leu Thr Val Thr Arg Glu Glu His His Phe
35 40 45

Met Val Asp Ala Arg Asn Arg Ser Tyr Pro Leu Tyr Ser Cys Trp Glu
50 55 60

Ala Trp Pro Glu Lys Gly Met Arg Arg Val Tyr Thr Thr Val Leu Phe

411USPHRM311.ST25.txt															
65					70					75					80
Ser	His	Ile	Tyr	Leu	Ala	Pro	Leu	Ala	Leu	Ile	Val	Val	Met	Tyr	Ala
				85					90					95	
Arg	Ile	Ala	Arg	Lys	Leu	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			100					105						110	
Xaa	Glu	Ala	Ala	Asp	Pro	Arg	Ala	Ser	Arg	Arg	Arg	Ala	Arg	Val	Val
			115				120					125			
His	Met	Leu	Val	Met	Val	Ala	Leu	Phe	Phe	Thr					
	130						135								

```
<210> 29
<211> 318
<212> DNA
<213> Homo sapiens
```

```
<210> 30
<211> 106
<212> PRT
<213> Homo sapiens
```

Gly Pro Met Pro Pro Thr Leu Leu Gly Ile Arg Gln Asn Gly His Ala
1 5 10 15

Leu Gly Arg Met Phe Tyr Ala Ile Thr Leu Leu Phe Leu Leu Leu Trp
35 40 45

Ala Val Pro His Arg Tyr Leu Ala Thr Ala Val Trp Met Ser Phe Ala
65 70 75 80

411USPHRM311.ST25.txt

Gln Ala Ala Val Asn Pro Ile Val Cys Phe Leu Leu Asn Lys Asp Leu
85 90 95

Lys Lys Cys Leu Arg Thr His Ala Pro Cys
100 105

<210> 31
<211> 354
<212> DNA
<213> Homo sapiens

<400> 31
tattctgtaa tgaagaatgt cattcacact gccattggca catccagtgg cctcacctag 60
cattgtgaaa gcccttcggt tgggtgtattg ccacttcatt ttaaaaggat gcacaagtcc 120
ctgggtgcctt tccacagcaa tgcagggtcat agtgaggatt tctgtcacia cagcggtaga 180
ctggacaaat ggcaccatct tgcaaatgaa agcacctgca gtaaggaaat aggataaatc 240
atacatcaaa acaaaaagaa taaaggtttc atctgtgtct ttgtaattat cactatcagt 300
ccattctgag cctctgccaa aaagtttgat aattgtaatt actctgtaga caca 354

<210> 32
<211> 117
<212> PRT
<213> Homo sapiens

<400> 32

Val Tyr Arg Val Ile Thr Ile Ile Lys Leu Phe Gly Arg Gly Ser Glu
1 5 10 15

Trp Thr Asp Ser Asp Asn Tyr Lys Asp Thr Asp Glu Thr Phe Ile Leu
20 25 30

Phe Val Leu Met Tyr Asp Leu Ser Tyr Phe Leu Thr Ala Gly Ala Phe
35 40 45

Ile Cys Lys Met Val Pro Phe Val Gln Ser Thr Ala Val Val Thr Glu
50 55 60

Ile Leu Thr Met Thr Cys Ile Ala Val Glu Arg His Gln Gly Leu Val
65 70 75 80

His Pro Phe Lys Met Lys Trp Gln Tyr Thr Asn Arg Arg Ala Phe Thr
85 90 95

Met Leu Gly Glu Ala Thr Gly Cys Ala Asn Gly Ser Val Asn Asp Ile
100 105 110

Leu His Tyr Arg Ile
115

<210> 33
 <211> 621
 <212> DNA
 <213> Homo sapiens

<400> 33
 gagcaacatg atctttttga agtacttgac ggtgtcggtc ttgacggtca cgaagcacag 60
 agtgttgatc atgctgttgc tcatggcgat gcactcgacg atgtagaagg cagtgaggtta 120
 gtgcttctcc ttcacaaaca cggtaggggaa gaagtcgcgc acgatggtga agccgtagaa 180
 gggcgcccag catagcacgt aggcggtgag gatgcacatg agcaccagga ccgtcttcct 240
 gcggcagcgc agcctcttgc ggatctgctc tgtctggaat ccagggaccg ccttgaacca 300
 gagctcccg gagatcctgg catagcacag ggtcatggtg accacggggc ccacgaattc 360
 tatgccaaag ataaagagga agtaggactt gtagtagagc tgctgggtcca caggccagat 420
 ctggcccgag aagatctttt cctggctctt gacaatgacg aggaccgtct cggtaggtgaa 480
 gtaggcggaa gggatggcga tcaggatgga caccgtccac accaaggcaa tcaggccagt 540
 ggctgtttgg cacttcattc gtggtctcag cggatggaca atagccagat acctagggca 600
 agaacacaag tggaggcagc c 621

<210> 34
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 34

Gly Cys Leu His Leu Cys Ser Cys Pro Arg Tyr Leu Ala Ile Val His
 1 5 10 15

Pro Leu Arg Pro Arg Met Lys Cys Gln Thr Ala Thr Gly Leu Ile Ala
 20 25 30

Leu Val Trp Thr Val Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe
 35 40 45

Thr Thr Glu Thr Val Leu Val Ile Val Lys Ser Gln Glu Lys Ile Phe
 50 55 60

Cys Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr
 65 70 75 80

Phe Leu Phe Ile Phe Gly Ile Glu Phe Val Gly Pro Val Val Thr Met
 85 90 95

Thr Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val
 100 105 110

411USPHRM311.ST25.txt

Pro Gly Phe Gln Thr Glu Gln Ile Arg Lys Arg Leu Arg Cys Arg Arg
 115 120 125

Lys Thr Val Leu Val Leu Met Cys Ile Leu Thr Ala Tyr Val Leu Cys
 130 135 140

Trp Ala Pro Phe Tyr Gly Phe Thr Ile Val Arg Asp Phe Phe Pro Thr
 145 150 155 160

Val Phe Val Lys Glu Lys His Tyr Leu Thr Ala Phe Tyr Ile Val Glu
 165 170 175

Cys Ile Ala Met Ser Asn Ser Met Ile Asn Thr Leu Cys Phe Val Thr
 180 185 190

Val Lys Asn Asp Thr Val Lys Tyr Phe Lys Lys Ile Met Leu Leu
 195 200 205

<210> 35
 <211> 483
 <212> DNA
 <213> Homo sapiens

<400> 35
 cagccacact gcagtgatga aatcaaagt ccaacaccaa ccatagtcac cattactaac 60
 taagaagcca caaaacttcc cttccagggt gttcagcagc agggacagg cccagggcag 120
 ggacacacatg acagttgaca ggtttcttgg gcagcagcag cagtaccaga taggccgcag 180
 gacagacagg cagcactcag tactgatggc actcagcatg ctcaggccta caaggtaggc 240
 aaaggtcatc acgctggtga agaagctagg gaaattgatg gagatggaac agaagaagtt 300
 actgaggtac accaggcaat ttataatctg gaagcagagg aagaggaagt cggccccggc 360
 caggctgagg acgtagacag agaaggcggt cctgcgcatg cggaagccca ggagccagag 420
 cacaaccg tttcctacca gcccgaccag ggcaatgaaa aggatcagga agaccgggat 480
 cag 483

<210> 36
 <211> 161
 <212> PRT
 <213> Homo sapiens

<400> 36
 Leu Ile Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val
 1 5 10 15

Gly Asn Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn
 20 25 30

Ala Phe Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe

35

40

45

Leu Cys Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe
 50 55 60

Cys Ser Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Ser Val Met Thr
 65 70 75 80

Phe Ala Tyr Leu Val Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu
 85 90 95

Cys Cys Leu Ser Val Leu Arg Pro Ile Trp Tyr Cys Cys Cys Cys Pro
 100 105 110

Arg Asn Leu Ser Thr Val Met Cys Ala Leu Pro Trp Ala Leu Ser Leu
 115 120 125

Leu Leu Asn Thr Leu Glu Gly Lys Phe Cys Gly Phe Leu Val Ser Asn
 130 135 140

Gly Asp Tyr Gly Trp Cys Trp Thr Phe Asp Phe Ile Thr Ala Val Trp
 145 150 155 160

Leu

<210> 37
 <211> 330
 <212> DNA
 <213> Homo sapiens

<400> 37
 gagagtctga ttctgactta catcacatat gtaggcctgg gcatttctat ttgcagcctg 60
 atccttttgct tgtccgttga ggtcctagtc tggagccaag tgacaaagac agagatcacc 120
 tatttacgcc atgtgtgcat tgttaacatt gcagccactt tgctgatggc agatgtgtgg 180
 ttcattgtgg cttcctttct tagtggccca ataacacacc acaagggatg tgtggcagcc 240
 acattttttg gtcattttct ttacctttct gtatttttct ggatgcttgc caaggcactc 300
 cttatcctct atggaatcat gattgttttc 330

<210> 38
 <211> 110
 <212> PRT
 <213> Homo sapiens

<400> 38

Glu Ser Leu Ile Leu Thr Tyr Ile Thr Tyr Val Gly Leu Gly Ile Ser
 1 5 10 15

411USPHRM311.ST25.txt

Ile Cys Ser Leu Ile Leu Cys Leu Ser Val Glu Val Leu Val Trp Ser
20 25 30

Gln Val Thr Lys Thr Glu Ile Thr Tyr Leu Arg His Val Cys Ile Val
35 40 45

Asn Ile Ala Ala Thr Leu Leu Met Ala Asp Val Trp Phe Ile Val Ala
50 55 60

Ser Phe Leu Ser Gly Pro Ile Thr His His Lys Gly Cys Val Ala Ala
65 70 75 80

Thr Phe Phe Gly His Phe Phe Tyr Leu Ser Val Phe Phe Trp Met Leu
85 90 95

Ala Lys Ala Leu Leu Ile Leu Tyr Gly Ile Met Ile Val Phe
100 105 110

<210> 39
<211> 628
<212> DNA
<213> Homo sapiens

<400> 39
ttgtgtggca gtagagagat gtcaggcttc agagtcaaca agaactggat ttcaaactgg 60
atttgaggac cccacacctt ggtaagtgac ttattatctg cgagcctctg tttctctctt 120
ctttaaatga ggacagtaaa tcccatcagg caggggtggtg gggagaatca gagatgatac 180
agctggtgat cacatctggt ttgtgttccc aggggcacca gactagggtt tctgagcatg 240
gatccaaccg tcccagtctt cggtagaaaa ctgacaccaa tcaacggacg tgaggagact 300
ccttgctaca atcagaccct gagcttcacg gtgctgacgt gcatcatttc ccttgctcga 360
ctgacaggaa acgcggtagt gctctggctc ctgggctacc gcatgcgcag gaacgctgtc 420
tccatctaca tcctcaacct ggccgcagca gacttcctct tcctcagctt ccagattata 480
cgttcgccat tacgcctcat caatatcagc catctcatcc gcaaaatcct cgtttctgtg 540
atgacctttc cctactttac aggcctgagt atgctgagcg ccatcagcac cgagcgctgc 600
ctgtctgttc tgtggcccat ctggtacc 628

<210> 40
<211> 205
<212> PRT
<213> Homo sapiens

<400> 40
Leu Cys Gly Ser Arg Glu Met Ser Gly Phe Arg Val Asn Lys Asn Trp
1 5 10 15

Ile Ser Asn Trp Ile Gly Pro Pro Pro Leu Val Ser Asp Leu Leu Ser

20

25

30

Ala Ser Leu Cys Phe Ser Leu Leu Met Arg Thr Val Asn Pro Ile Arg
 35 40 45

Gln Gly Gly Gly Glu Asn Gln Arg Tyr Ser Trp Ser His Leu Val Cys
 50 55 60

Val Pro Arg Gly Thr Arg Leu Gly Phe Leu Ser Met Asp Pro Thr Val
 65 70 75 80

Pro Val Phe Gly Thr Lys Leu Thr Pro Ile Asn Gly Arg Glu Glu Thr
 85 90 95

Pro Cys Tyr Asn Gln Thr Leu Ser Phe Thr Val Leu Thr Cys Ile Ile
 100 105 110

Ser Leu Val Gly Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly
 115 120 125

Tyr Arg Met Arg Arg Asn Ala Val Ser Ile Tyr Ile Leu Asn Leu Ala
 130 135 140

Ala Ala Asp Phe Leu Phe Leu Ser Phe Gln Ile Ile Arg Ser Pro Leu
 145 150 155 160

Arg Leu Ile Asn Ile Ser His Leu Ile Arg Lys Ile Leu Val Ser Val
 165 170 175

Met Thr Phe Pro Tyr Phe Thr Gly Leu Ser Met Leu Ser Ala Ile Ser
 180 185 190

Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile Trp Tyr
 195 200 205

<210> 41

<211> 319

<212> DNA

<213> Homo sapiens

<400> 41

acagaaagca aggccaccag gaccttaggc atagtcatgg gagtgtttgt gttgtgctgg 60

ctgcccttct ttgtcttgac gatcacagat cctttcatta attttacaac ccttgaagat 120

ctgtacaatg tcttcctctg gctaggetat ttcaactctg ctttcaatcc cattttatat 180

ggcatgcttt atccttggtt tcgcaaggca ttgaggatga ttgtcacagg catgatcttc 240

caccctgact cttccaccct aagcctgttt tctgcccattg cttaggctgt gttcatcatt 300

caataggact cttttctgg 319

<210> 42
 <211> 103
 <212> PRT
 <213> Homo sapiens

<400> 42

Thr Glu Ser Lys Ala Thr Arg Thr Leu Gly Ile Val Met Gly Val Phe
 1 5 10 15

Val Leu Cys Trp Leu Pro Phe Phe Val Leu Thr Ile Thr Asp Pro Phe
 20 25 30

Ile Asn Phe Thr Thr Leu Glu Asp Leu Tyr Asn Val Phe Leu Trp Leu
 35 40 45

Gly Tyr Phe Asn Ser Ala Phe Asn Pro Ile Leu Tyr Gly Met Leu Tyr
 50 55 60

Pro Trp Phe Arg Lys Ala Leu Arg Met Ile Val Thr Gly Met Ile Phe
 65 70 75 80

His Pro Asp Ser Ser Thr Leu Ser Leu Phe Ser Ala His Ala Ala Val
 85 90 95

Phe Ile Ile Gln Asp Ser Phe
 100

<210> 43
 <211> 515
 <212> DNA
 <213> Homo sapiens

<400> 43

taggaatctc agagaagaaa gtaaggaacc agaaaacccat aaaagaatgt aaatggaaaa 60
 gaatcagcaa atcttattca cttatcacta aatctaaaat atgtcaaaat acatgaagac 120
 aacaaatgct ttagaacaac tgttgaatgt attgtcctac aacttggcat atgatcatgc 180
 ttgcctctct atgtccaagt gtttattttt gcagttgacc ttaatttcaa gttagttttg 240
 aggtctctac agtaatgttt ttaatctgtc tctacttctt cagaaaataa attagtgtgtt 300
 gacgaatcag tccttaagac cttgccgctt acaataagtt ttattgcctt cccaaacccat 360
 tggtaaaaga aagcataaat caaggggttc atagctgaat tataataaac acaccaaact 420
 aaaatctcat aacataagg aggagttata aaattcatat aagcatcaat cactgcatca 480
 acgaggtatg gtagccaaga gacaagaaat gctgc 515

<210> 44
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 44

Leu His Gln Arg Gly Met Val Ala Lys Arg Gln Glu Met Leu Ala Ala
 1 5 10 15

Phe Leu Val Ser Trp Leu Pro Tyr Leu Val Asp Ala Val Ile Asp Ala
 20 25 30

Tyr Met Asn Phe Ile Thr Pro Pro Tyr Val Tyr Glu Ile Leu Val Trp
 35 40 45

Cys Val Tyr Tyr Asn Ser Ala Met Asn Pro Leu Ile Tyr Ala Phe Phe
 50 55 60

Tyr Gln Trp Phe Gly Lys Ala Ile Lys Leu Ile Val Ser Gly Lys Val
 65 70 75 80

Leu Arg Thr Asp Ser Ser Thr Thr Asn Leu Phe Ser Glu Glu Val Glu
 85 90 95

Thr Asp Lys His Tyr Cys Arg Asp Leu Lys Thr Asn Leu Lys Leu Arg
 100 105 110

Ser Thr Ala Lys Ile Asn Thr Trp Thr Arg Gly Lys His Asp His Met
 115 120 125

Pro Ser Cys Arg Thr Ile His Ser Thr Val Val Leu Lys His Leu Leu
 130 135 140

Ser Ser Cys Ile
 145

<210> 45

<211> 726

<212> DNA

<213> Homo sapiens

<400> 45

ctggaaagag gtcctcgatc taccctctac gccgtccttg gttttggggc tgtgctggca 60
 gcgtttggaa acttactggt catgattgct atccttcact tctaacaact gcacacacct 120
 acaaactttc tgattgcgtc gctggcctgt gctgacttct tgggtgggagt cactgtgatg 180
 cccttcagca cagtggagtc tgtggagagc tgttggtact ttggggacag ttactgtaaa 240
 ttccatacat gttttgacac atctttctgt tttgcttctt tatttcattt atgctgtatc 300
 tctgttgata gatacattgc tgttactgat cctctgacct atccaaccaa gtttactgtg 360
 tcagtttcag ggatatgcat tgttctttcc tgggtctttt ctgtcacata cagcttttcg 420
 atcttttaca cgggagccaa cgaagaagga attgaggaat tagtagttgc tctaacctgt 480

411USPHRM311.ST25.txt

gtaggaggct gccaggctcc actgaatcaa aactgggtcc tactttgttt tcttctattc 540
 tttataccca atgtcgccat ggtgtttata tacagtaaga tatttttggt ggccaagcat 600
 caggctagga agatagaaag tacagccagc caagctcagt ccttctcaga gagttacaag 660
 gaaagagtag caaaaagaga gagaaaggct gccaaaacct tggaattgc tatggcagca 720
 tttctt 726

<210> 46
 <211> 241
 <212> PRT
 <213> Homo sapiens

<400> 46

Leu Glu Arg Gly Pro Arg Ser Ile Leu Tyr Ala Val Leu Gly Phe Gly
 1 5 10 15

Ala Val Leu Ala Ala Phe Gly Asn Leu Leu Val Met Ile Ala Ile Leu
 20 25 30

His Phe Gln Leu His Thr Pro Thr Asn Phe Leu Ile Ala Ser Leu Ala
 35 40 45

Cys Ala Asp Phe Leu Val Gly Val Thr Val Met Pro Phe Ser Thr Val
 50 55 60

Arg Ser Val Glu Ser Cys Trp Tyr Phe Gly Asp Ser Tyr Cys Lys Phe
 65 70 75 80

His Thr Cys Phe Asp Thr Ser Phe Cys Phe Ala Ser Leu Phe His Leu
 85 90 95

Cys Cys Ile Ser Val Asp Arg Tyr Ile Ala Val Thr Asp Pro Leu Thr
 100 105 110

Tyr Pro Thr Lys Phe Thr Val Ser Val Ser Gly Ile Cys Ile Val Leu
 115 120 125

Ser Trp Phe Phe Ser Val Thr Tyr Ser Phe Ser Ile Phe Tyr Thr Gly
 130 135 140

Ala Asn Glu Glu Gly Ile Glu Glu Leu Val Val Ala Leu Thr Cys Val
 145 150 155 160

Gly Gly Cys Gln Ala Pro Leu Asn Gln Asn Trp Val Leu Leu Cys Phe
 165 170 175

Leu Leu Phe Phe Ile Pro Asn Val Ala Met Val Phe Ile Tyr Ser Lys
 180 185 190

411USPHRM311.ST25.txt

Ile Phe Leu Val Ala Lys His Gln Ala Arg Lys Ile Glu Ser Thr Ala
195 200 205

Ser Gln Ala Gln Ser Phe Ser Glu Ser Tyr Lys Glu Arg Val Ala Lys
210 215 220

Arg Glu Arg Lys Ala Ala Lys Thr Leu Gly Ile Ala Met Ala Ala Phe
225 230 235 240

Leu

<210> 47
<211> 660
<212> DNA
<213> Homo sapiens

<400> 47
aaccagggtgg ccttactcct aagaccacctg gccttgtcta tggcctttat caacagctgt 60
ctcaatccag ttctctatgt cttcattggg catgacttct gggagcactt gctccactcc 120
ctgctagctg ccttagaacg ggcacttagc gaggagccag atagtgcctg aatcccagct 180
cccaggcaga tgagtccttt ataacatgac ccaatttcct actccatttt cccaccactc 240
aatcctcttc ccaaacagct ctaccataat ccaacatcca acagaattta agagaataaa 300
ccacaacttt taagtgaagct ctatgtgcta ggtcatgttt tagaatacaa ccttaagtgc 360
ctggaagatg gaggcaagaa acaacaagg tctcattctt tagaggaaga cagttcacca 420
agactcaaac agaaaaaag atagttatct tgtgacaaaa caagtcataa aattgggtca 480
ggacctgcag caatgacttt atgctagaat ccagagcact agcaggaaac tgcttaaatt 540
ttacttaatc aaagtcaagt ttggacatac atgtcaggta aaacctagca gagatgagct 600
accttgattt taaaacttca agggatagct caatgtcatc aagatccttt tgatgacttg 660

<210> 48
<211> 211
<212> PRT
<213> Homo sapiens

<400> 48

Asn Gln Val Ala Leu Leu Leu Arg Pro Leu Ala Leu Ser Met Ala Phe
1 5 10 15

Ile Asn Ser Cys Leu Asn Pro Val Leu Tyr Val Phe Ile Gly His Asp
20 25 30

Phe Trp Glu His Leu Leu His Ser Leu Leu Ala Ala Leu Glu Arg Ala
35 40 45

411USPHRM311.ST25.txt

Leu Ser Glu Glu Pro Asp Ser Ala Ile Pro Ala Pro Arg Gln Met Ser
 50 55 60

Pro Leu His Asp Pro Ile Ser Tyr Ser Ile Phe Pro Pro Leu Asn Pro
 65 70 75 80

Leu Pro Lys Gln Leu Tyr His Asn Pro Thr Ser Asn Arg Ile Glu Asn
 85 90 95

Lys Pro Gln Leu Leu Ser Glu Leu Tyr Val Leu Gly His Val Leu Glu
 100 105 110

Tyr Asn Leu Lys Cys Leu Glu Asp Gly Gly Lys Lys Gln Thr Arg Ser
 115 120 125

His Ser Leu Glu Glu Asp Ser Ser Pro Arg Leu Lys Gln Lys Lys Arg
 130 135 140

Leu Ser Cys Asp Lys Thr Ser His Lys Ile Gly Ser Gly Pro Ala Ala
 145 150 155 160

Met Thr Leu Cys Asn Pro Glu His Gln Glu Thr Ala Ile Leu Leu Asn
 165 170 175

Gln Ser Gln Val Trp Thr Tyr Met Ser Gly Lys Thr Gln Arg Ala Thr
 180 185 190

Leu Ile Leu Lys Leu Gln Gly Ile Ala Gln Cys His Gln Asp Pro Phe
 195 200 205

Asp Asp Leu
 210

<210> 49
 <211> 465
 <212> DNA
 <213> Homo sapiens

<400> 49
 gcttgttcac ggccaccatc ctcaagctgt tgcgcacgga ggaggcgac ggccgggagc 60
 agcggaggcg cgcggtgggc ctggccgcgg tggctcttgc ggcctttgtc acctgcttcg 120
 cccccaacaa cttcgtgctc ctggcgcaca tcgtgagccg cctgttctac ggcaagagct 180
 actaccacgt gtacaagctc acgctgtgtc tcagctgcct caacaactgt ctggaccgt 240
 ttgtttatta ctttgcgtcc cggaattcc agctgcgcct gcgggaatat ttgggctgcc 300
 gccgggtgcc cagagacacc ctggacacgc gccgcgagag cctcttctcc gccaggacca 360
 cgtccgtgcg ctccgaggcc ggtgcgcacc ctgaagggat ggaggagacc accaggcccg 420
 gcctccagag gcaggagagt gtgttctgag tcccgggggc gcagc 465

<210> 50
 <211> 160
 <212> PRT
 <213> Homo sapiens

<400> 50

Leu Phe Thr Ala Thr Ile Leu Lys Leu Leu Arg Thr Glu Glu Ala His
 1 5 10 15

Gly Arg Glu Gln Arg Arg Arg Ala Val Gly Leu Ala Ala Val Val Leu
 20 25 30

Leu Ala Phe Val Thr Cys Phe Ala Pro Asn Asn Phe Val Leu Leu Ala
 35 40 45

His Ile Val Ser Arg Leu Phe Tyr Gly Lys Ser Tyr Tyr His Val Tyr
 50 55 60

Lys Leu Thr Leu Cys Leu Ser Cys Leu Asn Asn Cys Leu Asp Pro Phe
 65 70 75 80

Val Tyr Tyr Phe Ala Ser Arg Glu Phe Gln Leu Arg Leu Arg Glu Tyr
 85 90 95

Leu Gly Cys Arg Arg Val Pro Arg Asp Thr Leu Asp Thr Arg Arg Glu
 100 105 110

Ser Leu Phe Ser Ala Arg Thr Thr Ser Val Arg Ser Glu Ala Gly Ala
 115 120 125

His Pro Glu Gly Met Glu Gly Ala Thr Arg Pro Gly Leu Gln Arg Gln
 130 135 140

Glu Ser Val Phe Val Pro Gly Ala Gln Ala Ala Pro Pro Gly Leu Arg
 145 150 155 160

<210> 51
 <211> 603
 <212> DNA
 <213> Homo sapiens

<400> 51

ttactttattc tgccctttat ccaactttta attccctttg ctattctcct gcctcathtt 60
 ctggcctcat tttccctatt atcctgcctc acattgatca agggatgagg ctggcaggat 120
 ccggaacca caggcccccg tgggccatga gaggtcctg gacttgaacc tcaggacact 180
 cccactctgg ctgccggcag ggatggaagc tggatgagca ggcaggagct ggcagtgggg 240
 gtggagagcc ataggctatt ggggtggaca ggcttgggtg cctcatggga gctcccatg 300

411USPHRM311.ST25.txt

```

ggagctgtgg ccccttgagg cctcttattt ctcacccag gctttcccgg gagaggttca 360
agtcagaaga tgcccaaag atccacgtgg ccctgggtgg cagcctgttc ctcctgaatc 420
tggccttctt ggtcaatgtg gggagtggct caaaggggtc tgatgctgcc tgctgggccc 480
ggggggctgt cttccactac ttcctgctct gtgccttcac ctggatgggc cttgaagcct 540
tccacctcta cctgctcgct gtcaggggtct tcaacaccta cttcgggcac tacttctga 600
agc 603

```

```

<210> 52
<211> 198
<212> PRT
<213> Homo sapiens
<400> 52

```

```

Glu Thr Tyr Ser Ala Leu Tyr Pro Thr Phe Asn Ser Leu Cys Tyr Ser
1          5          10          15

```

```

Pro Ala Ser Phe Ser Gly Leu Ile Phe Pro Ile Ile Leu Pro His Ile
          20          25          30

```

```

Asp Gln Gly Met Arg Leu Ala Gly Ser Gly Thr His Arg Ala Pro Trp
          35          40          45

```

```

Ala Met Arg Gly Ser Trp Thr Thr Ser Gly His Ser His Ser Gly Cys
          50          55          60

```

```

Arg Gln Gly Trp Lys Leu Asp Glu Gln Ala Gly Ala Gly Ser Gly Gly
65          70          75          80

```

```

Gly Glu Pro Ala Ile Gly Val Asp Arg Leu Gly Cys Leu Met Gly Ala
          85          90          95

```

```

Pro His Gly Ser Cys Gly Pro Leu Gly Pro Leu Ile Ser His Pro Arg
          100          105          110

```

```

Leu Ser Arg Glu Arg Phe Lys Ser Glu Asp Ala Pro Lys Ile His Val
          115          120          125

```

```

Ala Leu Gly Gly Ser Leu Phe Leu Leu Asn Leu Ala Phe Leu Val Asn
          130          135          140

```

```

Val Gly Ser Gly Ser Lys Gly Ser Asp Ala Ala Cys Trp Ala Arg Gly
145          150          155          160

```

```

Ala Val Phe His Tyr Phe Leu Leu Cys Ala Phe Thr Trp Met Gly Leu
          165          170          175

```

```

Glu Ala Phe His Leu Tyr Leu Leu Ala Val Arg Val Phe Asn Thr Tyr

```

180

185

190

Phe Gly His Tyr Phe Leu
195

<210> 53
<211> 335
<212> DNA
<213> Homo sapiens

<400> 53
aattggtcgg agagtgcagc tgcttgaaat ggaggattga aatcatcacc aggaggtttc 60
caaacacagc cagcacagcc ccaaagccaa acactatgta cagaatcacc cgggatcccg 120
gcgagaaggg gattttcaca caggacccat tcacgttcgc gtagcacagc tgcacagcca 180
ccagcagggg tgaattgctg ctcataacgc tggatattac atatggagaa attttgcct 240
tggtgattat cacaaaaaat acaggattgt tcctgatttt cattgctcct gcggaaaaaa 300
acacatattc accaggatgc cagaggaaat gatca 335

<210> 54
<211> 111
<212> PRT
<213> Homo sapiens

<400> 54

Asp His Phe Leu Trp His Pro Gly Glu Tyr Val Phe Phe Ser Ala Gly
1 5 10 15

Ala Met Lys Ile Arg Asn Asn Pro Val Phe Phe Val Ile Ile Asn Lys
20 25 30

Asp Lys Ile Ser Pro Tyr Val Asn Thr Ser Val Met Ser Ser Asn Ser
35 40 45

Ser Leu Leu Val Ala Val Gln Leu Cys Tyr Ala Asn Val Asn Gly Ser
50 55 60

Cys Val Lys Ile Pro Phe Ser Pro Gly Ser Arg Val Ile Leu Tyr Ile
65 70 75 80

Val Phe Gly Phe Gly Ala Val Leu Ala Val Phe Gly Asn Leu Leu Val
85 90 95

Met Ile Ser Ile Leu His Phe Lys Gln Leu His Ser Pro Thr Asn
100 105 110

<210> 55
<211> 586
<212> DNA
<213> Homo sapiens

411USPHRM311.ST25.txt

```

<400> 55
cacatcttaa caagactgaa aaacattgat ttgtttttaa tttgaagagc aatttatttg      60
ctattcattc atagtcttac ttgattttta aaaactcatt tcgcttggtgta attttaaagg    120
tatcctgaac ttcgtctatc caactgctta tatatgttca gaaaacaaat tcatggttgc     180
tgaactgttc tttaaaacct gaccagttac aataactttt attgctttcc taaaccatgg     240
gtaaaataaa gcataaatca aaggattcat ggctgagtta taataagcac accaacagca     300
tcataaatac aggcaggggt tataaagccc ataaaggcat caattaatga atcaatgcta     360
tatggtaacc atgaaatcat aaatgctacc actgtgaccc ccagggtttt agctgctttt     420
ctctctctcc tggccactct ggctttgtaa ctctctgagg atgattctgt cttgctacca     480
gtattttcta tctttttcgc ctgtcgtcta gccacaagaa atatgttacc atacagaatt     540
atcataataa aggtagggtat aaagaaggat agaaaatctg tcaaca                     586

```

```

<210> 56
<211> 190
<212> PRT
<213> Homo sapiens

```

```

<400> 56

```

```

Leu Thr Asp Phe Leu Ser Phe Phe Ile Pro Thr Phe Ile Met Ile Ile
1           5           10           15

```

```

Leu Tyr Gly Asn Ile Phe Leu Val Ala Arg Arg Gln Ala Lys Lys Ile
20          25          30

```

```

Glu Asn Thr Gly Ser Lys Thr Glu Ser Ser Ser Glu Ser Tyr Lys Ala
35          40          45

```

```

Arg Val Ala Arg Arg Glu Arg Lys Ala Ala Lys Thr Leu Gly Val Thr
50          55          60

```

```

Val Val Ala Phe Met Ile Ser Trp Leu Pro Tyr Ser Ile Asp Ser Leu
65          70          75          80

```

```

Ile Asp Ala Phe Met Gly Phe Ile Thr Pro Ala Cys Ile Tyr Glu Ile
85          90          95

```

```

Cys Cys Trp Cys Ala Tyr Tyr Asn Ser Ala Met Asn Pro Leu Ile Tyr
100         105         110

```

```

Ala Leu Phe Tyr Pro Trp Phe Arg Lys Ala Ile Lys Val Ile Val Thr
115         120         125

```

```

Gly Gln Val Leu Lys Asn Ser Ser Ala Thr Met Asn Leu Phe Ser Glu
130         135         140

```

411USPHRM311.ST25.txt

His Ile Ala Val Gly Thr Lys Phe Arg Ile Pro Leu Lys Leu Pro Ser
145 150 155 160

Glu Met Ser Phe Lys Ser Ser Lys Thr Met Asn Glu Gln Ile Asn Cys
165 170 175

Ser Ser Asn Lys Gln Ile Asn Val Phe Gln Ser Cys Asp Val
180 185 190

<210> 57
<211> 976
<212> DNA
<213> Homo sapiens

<400> 57
tttgtggcaa ggagaccctg atccccgtct tcctgaccc tttcattgcc ctggtcgggc 60
tggtaggaaa cgggtttgtg ctctggctcc tgggcttccg catgcgagg aacgccttct 120
ctgtctacgt cctcagcctg gccggggccg acttcctctt cctctgcttc cagattataa 180
attgcctggg gtacctcagt aacttcttct gtccatctc catcaatttc cctagcttct 240
tcaccactgt gatgacctgt gcctaccttg caggcctgag catgctgagc accgtcagca 300
ccgagcgctg cctgtccgtc ctgtggccca tctggtatcg ctgccgccgc ccagacacc 360
tgtcagcggg cgtgtgtgtc ctgctctggg ccctgtccct actgctgagc atcttggaag 420
ggaagtcttg tggcttctta tttagtgatg gtgactctgg ttggtgtcag acatttgatt 480
tcatcactgc agcgtggctg atttttttat tcatggttct ctgtgggtcc agtctggccc 540
tgctggtcag gatcctctgt ggctccaggg gtctgccact gaccaggctg tacctgacca 600
tcctgctcac agtgctgggtg tcctcctctt gcggcctgcc ctttggcatt cagtggttcc 660
taatattatg gatctggaag gattctgatg tcttattttg tcatattcat ccagtttcag 720
ttgtcctgtc atctcttaac agcagtgcc aacctatcat ttacttcttc gtgggtctct 780
ttaggaagca gtggcggtg cagcaccgga tcctcaagct ggctctccag agggctctgc 840
aggacattgc tgagggtgat cacagtgaag gatgcttccg tcagggcacc cggagattca 900
aagaagcatt ctggtgtagg gatggacccc tctacttcca tcatatatat gtggctttga 960
gaggcaactt tgcccc 976

<210> 58
<211> 324
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (266)..(266)
<223> Xaa is any amino acid

<400> 58

Cys Gly Lys Glu Thr Leu Ile Pro Val Phe Leu Ile Leu Phe Ile Ala
 1 5 10 15

Leu Val Gly Leu Val Gly Asn Gly Phe Val Leu Trp Leu Leu Gly Phe
 20 25 30

Arg Met Arg Arg Asn Ala Phe Ser Val Tyr Val Leu Ser Leu Ala Gly
 35 40 45

Ala Asp Phe Leu Phe Leu Cys Phe Gln Ile Ile Asn Cys Leu Val Tyr
 50 55 60

Leu Ser Asn Phe Phe Cys Ser Ile Ser Ile Asn Phe Pro Ser Phe Phe
 65 70 75 80

Thr Thr Val Met Thr Cys Ala Tyr Leu Ala Gly Leu Ser Met Leu Ser
 85 90 95

Thr Val Ser Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile Trp Tyr
 100 105 110

Arg Cys Arg Arg Pro Arg His Leu Ser Ala Val Val Cys Val Leu Leu
 115 120 125

Trp Ala Leu Ser Leu Leu Leu Ser Ile Leu Glu Gly Lys Phe Cys Gly
 130 135 140

Phe Leu Phe Ser Asp Gly Asp Ser Gly Trp Cys Gln Thr Phe Asp Phe
 145 150 155 160

Ile Thr Ala Ala Trp Leu Ile Phe Leu Phe Met Val Leu Cys Gly Ser
 165 170 175

Ser Leu Ala Leu Leu Val Arg Ile Leu Cys Gly Ser Arg Gly Leu Pro
 180 185 190

Leu Thr Arg Leu Tyr Leu Thr Ile Leu Leu Thr Val Leu Val Ser Leu
 195 200 205

Leu Cys Gly Leu Pro Phe Gly Ile Gln Trp Phe Leu Ile Leu Trp Ile
 210 215 220

Trp Lys Asp Ser Asp Val Leu Phe Cys His Ile His Pro Val Ser Val
 225 230 235 240

Val Leu Ser Ser Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe
 245 250 255

411USPHRM311.ST25.txt

Val Gly Ser Phe Arg Lys Gln Trp Arg Xaa Gln His Pro Ile Leu Lys
260 265 270

Leu Ala Leu Gln Arg Ala Leu Gln Asp Ile Ala Glu Val Asp His Ser
275 280 285

Glu Gly Cys Phe Arg Gln Gly Thr Arg Arg Phe Lys Glu Ala Phe Trp
290 295 300

Cys Arg Asp Gly Pro Leu Tyr Phe His His Ile Tyr Val Ala Leu Arg
305 310 315 320

Gly Asn Phe Ala

<210> 59
<211> 578
<212> DNA
<213> Homo sapiens

<400> 59
ctttgcatct cactgttgag cagacagcct gctgaaagtt gtcgctgacc accacatata 60
gtaacagggt accaaagggtg ttcagagcag cataatgggtc tagaaacgat gtaagcttca 120
tggatctgat tctcaatgga acaactgatt gaaagcaggc tgagattcga tcttgaatga 180
ccctcaagat atggaagggt aaaaaacata cgtaaaatgc aaggagtagc agaatggta 240
gccttcgtgc tttctgctta aggcagctgt cagtttgcag tccatgggtc aaagtgtgga 300
taatcggtgt atagcaaagt gtcactatca ccaaggggag gcagaaagta cttgcagtca 360
aaatcagggt gtaccactta atagtattga gttcatccga actgggtgagg tcgagacagg 420
ctgatctgtt ggtcctgttg gttgatgtga tcaagaaggt catcggaatg acagctacca 480
gtgaaatgat ccacaccaca gcacaggcta caactgcaca tcgagttttg tgaatggaaa 540
agcagctcat tgggtgaatg atcacacagt agcggaag 578

<210> 60
<211> 192
<212> PRT
<213> Homo sapiens

<400> 60

Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile His
1 5 10 15

Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile Ser
20 25 30

Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn Arg
35 40 45

411USPHRM311.ST25.txt

Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu Asn
50 55 60

Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Ser Thr Phe Cys Leu
65 70 75 80

Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr Leu
85 90 95

Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg Arg
100 105 110

Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro Phe
115 120 125

His Ile Leu Arg Val Ile Gln Asp Arg Ile Ser Ala Cys Phe Gln Ser
130 135 140

Val Val Pro Leu Arg Ile Arg Ser Met Lys Leu Thr Ser Phe Leu Asp
145 150 155 160

His Tyr Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val Val
165 170 175

Val Ser Asp Asn Phe Gln Gln Ala Val Cys Ser Thr Val Arg Cys Lys
180 185 190

<210> 61
<211> 872
<212> DNA
<213> Homo sapiens

<400> 61
gggagggctc gtagacacac taacctacc ctttctgttt cttcctcatc tttcctttcc 60
atctgtttct catggtctcc tgtctgtctc tctctctctc ccctctttct ctctcctcgc 120
tctttctcat cccctccatt tctgtgtcaa tctcaatcca tttatatcgg tggccacttt 180
tctatctctt tgttctatct ctctctctct ctctttccca ctttgtctct gcacgcctgt 240
tgtgtttttc tgctgtctc tctcttgccc tcatctctct gtctctctct tgccctcatc 300
tctctgtctc tctgtgtctg tgtctcccc gctcattccc atttgaggt gcaatgtagc 360
aggacaactc atggagcccc cccgggcccc tcgagtaccg gactggctga cccctaggg 420
ttggcagtag cccctgacct tcagtatggc caacactacc ggagagcctg aggaggtgag 480
cggcgctctg tccccaccgt ccgcatcagc ttatgtgaag ctggtactgc tgggactgat 540
tatgtgcgtg agcctggcgg gtaacgcat cttgtccctg ctggtgctca aggagcgggc 600
cctgcacaag gtccttact acttctgtct ggacctgtgc ctggccgatg gcatacgctc 660

411USPHRM311.ST25.txt

tgccgtctgc ttcccccttg tgctggcttc tgtgcgccac ggctcttcat ggaccttcag 720
 tgcaactcagc tgcaagattg tggcctttat ggccgtgctc ttttgcttcc atgcggcctt 780
 catgctgttc tgcatcagcg tcacccgcta catggccatc gccaccacc gcttctacgc 840
 caagcgcgatg acactctgga catgcgcggc tg 872

<210> 62
 <211> 143
 <212> PRT
 <213> Homo sapiens

<400> 62

Met Ala Asn Thr Thr Gly Glu Pro Glu Val Ser Gly Ala Leu Ser
 1 5 10 15

Pro Pro Ser Ala Ser Ala Tyr Val Lys Leu Val Leu Leu Gly Leu Ile
 20 25 30

Met Cys Val Ser Leu Ala Gly Asn Ala Ile Leu Ser Leu Leu Val Leu
 35 40 45

Lys Glu Arg Ala Leu His Lys Ala Pro Tyr Tyr Phe Leu Leu Asp Leu
 50 55 60

Cys Leu Ala Asp Gly Ile Arg Ser Ala Val Cys Phe Pro Phe Val Leu
 65 70 75 80

Ala Ser Val Arg His Gly Ser Ser Trp Thr Phe Ser Ala Leu Ser Cys
 85 90 95

Lys Ile Val Ala Phe Met Ala Val Leu Phe Cys Phe His Ala Ala Phe
 100 105 110

Met Leu Phe Cys Ile Ser Val Thr Arg Tyr Met Ala Ile Ala His His
 115 120 125

Arg Phe Tyr Ala Lys Arg Met Thr Leu Trp Thr Cys Ala Ala Glu
 130 135 140

<210> 63
 <211> 962
 <212> DNA
 <213> Homo sapiens

<400> 63

aaaaattgct gtactgaact attgaatgga acttggaat aaagtccctt ccaaaataac 60
 tattcttcaa cagagagtaa taggtaaagt ttttagaagt gagaggactc aaattgccaa 120
 tgatttactc ttttattttt cctcctaggt ttctgggata agtatgtgca aataaaaaat 180

411USPHRM311.ST25.txt

```

aaacatgaga aggaactgta acctgattat ggatttggga aaaagataaa tcaacacaca 240
aagggaagaaag taaactgatt gacagccctc aggaatgatg cccttttgcc acaatataat 300
taatatttcc tgtgtgaaaa acaactggtc aaatgatgtc cgtgcttccc tgtacagttt 360
aatgggtgctc ataattctga ccacactcgt tggcaatctg atagttattg tttctatatc 420
acacttcaaa caacttcata cccaacaaa ttggctcatt cattccatgg ccactgtgga 480
ctttcttctg ggggtgtctgg tcatgcctta cagtatgggt agatctgctg agcactgttg 540
gtattttgga gaagtcttct gtaaaattca cacaagcacc gacattatgc tgagctcagc 600
ctccattttc catttgtctt tcatctccat tgaccgctac tatgctgtgt gtgatccact 660
gagatataaa gccaaagatga atatcttggt tatttgtgtg atgatcttca ttagttggag 720
tgtccctgct gtttttgcatt ttggaatgat ctttctggag ctaaacttca aaggcgctga 780
agagatatat tacaacatg ttactgcag aggaggttgc tctgtcttct ttagcaaaat 840
atctggggta ctgaccttta tgacttcttt ttatatacct ggatctatta tgttatgtgt 900
ctattacaga atatatctta tcgctaaaga acaggcaaga ttaattagt atgccaatca 960
ga 962

```

```

<210> 64
<211> 238
<212> PRT
<213> Homo sapiens

```

```
<400> 64
```

```

Arg Glu Lys Thr Asp Gln Pro Ser Gly Met Met Pro Phe Cys His Asn
1          5          10          15

```

```

Ile Ile Asn Ile Ser Cys Val Lys Asn Asn Trp Ser Asn Asp Val Arg
20          25          30

```

```

Ala Ser Leu Tyr Ser Leu Met Val Leu Ile Ile Leu Thr Thr Leu Val
35          40          45

```

```

Gly Asn Leu Ile Val Ile Val Ser Ile Ser His Phe Lys Gln Leu His
50          55          60

```

```

Thr Pro Thr Asn Trp Leu Ile His Ser Met Ala Thr Val Asp Phe Leu
65          70          75          80

```

```

Leu Gly Cys Leu Val Met Pro Tyr Ser Met Val Arg Ser Ala Glu His
85          90          95

```

```

Cys Trp Tyr Phe Gly Glu Val Phe Cys Lys Ile His Thr Ser Thr Asp
100          105          110

```

```
Ile Met Leu Ser Ser Ala Ser Ile Phe His Leu Ser Phe Ile Ser Ile
```

115

120

125

Asp Arg Tyr Tyr Ala Val Cys Asp Pro Leu Arg Tyr Lys Ala Lys Met
 130 135 140

Asn Ile Leu Val Ile Cys Val Met Ile Phe Ile Ser Trp Ser Val Pro
 145 150 155 160

Ala Val Phe Ala Phe Gly Met Ile Phe Leu Glu Leu Asn Phe Lys Gly
 165 170 175

Ala Glu Glu Ile Tyr Tyr Lys His Val His Cys Arg Gly Gly Cys Ser
 180 185 190

Val Phe Phe Ser Lys Ile Ser Gly Val Leu Thr Phe Met Thr Ser Phe
 195 200 205

Tyr Ile Pro Gly Ser Ile Met Leu Cys Val Tyr Tyr Arg Ile Tyr Leu
 210 215 220

Ile Ala Lys Glu Gln Ala Arg Leu Ile Ser Asp Ala Asn Gln
 225 230 235

<210> 65
 <211> 1018
 <212> DNA
 <213> Homo sapiens

<400> 65
 aacagtcccg ggtggaacct gggcatgtat attttgattg ttttatgcat actcctagtg 60
 aagaaccaat gtcttgctca gatagaagca agatactcag acttagtttc tctgtagctc 120
 ctgcttttta ttattcctgg ttggattgca ccactactca gtttctatit tataatactg 180
 attataaaac atgggaggga aataactttg tattggtttt tatggataat ttattatgtg 240
 tcctagactc tggccttgtc aaaagaagga cgtaagaagg cacgatgtat tatacttggg 300
 aatgatagaa gagactgacc tggatatttc acccggaaga gggaaaggat ttaactaca 360
 aatacaggaa tccagcagat ggcatcagag aacactataa aaaagaaacg atttgcaaca 420
 gccacctctc ttccaaaaca attccttact tctgtggtct gcaaggcggg tttttgaatg 480
 gaacagaaca tagtaatata ggaaaacaca atgatgagaa aagccagcaa gttcacacct 540
 gttggggaaa agcacacttt taacatctca ggcgtaaaag tcaacagtaa aattactgtg 600
 gtacagggttg agtatccctt acccaaaatg tttgaaacca gaaatgtttt ggatttcgga 660
 tttcggaata ttacacatt cataatgata tatcttgga atggttccca agtctaaaca 720
 caaaatttat ttatgtttca tatacacctt atacacatag tctgaaagta atttgtaca 780
 atattttaaa taattttggg catgaaacaa agtttgcata cattgaacca tcagacagca 840

411USPHRM311.ST25.txt

aaagcttcag gtgtggaatt ttccacttgt ggcacatgt tgatgctcaa aaagttccat 900
 attttagagc atttcaaatt ttggattttc aaattacaaa tgcttaacct gtacttagat 960
 gttaaataca gtgcctcttc cacgggcact ttcaggaagc attcttttat ataagccc 1018

<210> 66
 <211> 327
 <212> PRT
 <213> Homo sapiens

<400> 66

Tyr Ile Lys Glu Cys Phe Leu Lys Val Pro Val Glu Glu Ala Leu Tyr
 1 5 10 15

Leu Thr Ser Lys Tyr Arg Leu Ser Ile Cys Asn Leu Lys Ile Gln Asn
 20 25 30

Leu Lys Cys Ser Lys Ile Trp Asn Phe Leu Ser Ile Asn Met Met Pro
 35 40 45

Gln Val Glu Asn Ser Thr Pro Glu Ala Phe Ala Val Trp Phe Asn Val
 50 55 60

Cys Lys Leu Cys Phe Met Pro Lys Ile Ile Asn Ile Val Gln Asn Tyr
 65 70 75 80

Phe Gln Thr Met Cys Ile Arg Cys Ile Asn Ile Asn Lys Phe Cys Val
 85 90 95

Thr Trp Glu Pro Phe Pro Arg Tyr Ile Ile Met Asn Val Ile Phe Arg
 100 105 110

Asn Pro Lys Ser Lys Thr Phe Leu Val Ser Asn Ile Leu Gly Lys Gly
 115 120 125

Tyr Ser Thr Cys Thr Thr Val Ile Leu Leu Leu Thr Phe Thr Pro Glu
 130 135 140

Met Leu Lys Val Cys Phe Ser Pro Thr Gly Val Asn Leu Leu Ala Phe
 145 150 155 160

Leu Ile Ile Val Phe Ser Tyr Ile Thr Met Phe Cys Ser Ile Gln Lys
 165 170 175

Thr Ala Leu Gln Thr Thr Glu Val Arg Asn Cys Phe Gly Arg Glu Val
 180 185 190

Ala Val Ala Asn Arg Phe Phe Phe Ile Val Phe Ser Asp Ala Ile Cys
 195 200 205

411USPHRM311.ST25.txt

Trp Ile Pro Val Phe Val Val Lys Ile Leu Ser Leu Phe Arg Val Glu
210 215 220

Ile Pro Gly Gln Ser Leu Leu Ser Phe Pro Ser Ile Ile His Arg Ala
225 230 235 240

Phe Leu Arg Pro Ser Phe Asp Lys Ala Arg Val Asp Thr Ile Ile His
245 250 255

Lys Asn Gln Tyr Lys Val Ile Ser Leu Pro Cys Phe Ile Ile Ser Ile
260 265 270

Ile Lys Lys Leu Ser Ser Gly Ala Ile Gln Pro Gly Ile Ile Lys Ser
275 280 285

Arg Ser Tyr Arg Glu Thr Lys Ser Glu Tyr Leu Ala Ser Ile Ala Arg
290 295 300

His Trp Phe Phe Thr Arg Ser Met His Lys Thr Ile Lys Ile Tyr Met
305 310 315 320

Pro Arg Phe His Pro Gly Leu
325

<210> 67
<211> 1251
<212> DNA
<213> Homo sapiens

<400> 67
actaccatgg aagctgacct gggtgccact ggccacaggc cccgcacaga gcttgatgat 60
gaggactcct accccaagg tggctgggac acggtcttcc tgggtggcct gctgctcctt 120
gggctgccag ccaatgggtt gatggcgtgg ctggccggct cccaggcccg gcatggagct 180
ggcacgcgtc tggcgctgct cctgctcagc ctggccctct ctgaattctt gttcctggca 240
gcagcggcct tccagatcct agagatccgg catgggggac actggccgct ggggacagct 300
gcctgccgct tctactactt cctatggggc gtgtcctact cctccggcct cttcctgctg 360
gccgccctca gcctcgaccg ctgcctgctg gcgctgtgcc cacactggta ccctgggcac 420
cgcccagtec gcctgccct ctgggtctgc gccggtgtct ggggtgctggc cacactcttc 480
agcgtgccct ggctggtctt ccccgaggct gccgtctggt ggtacgacct ggtcatctgc 540
ctggacttct gggacagcga ggagctgtcg ctgaggatgc tggaggctcct ggggggcttc 600
ctgcctttcc tctgtgctct cgtctgccac gtgtcaccc aggccacagc ctgtcgcacc 660
tgccaccgcc aacagcagcc cgcagcctgc cggggcttcg cccgtgtggc caggaccatt 720
ctgtcagcct atgtggtcct gaggctgccc taccagctgg cccagctgct ctacctggcc 780

411USPHRM311.ST25.txt

```

ttcctgtggg acgtctactc tggctacctg ctctgggagg ccctgggtcta ctccgactac      840
ctgatcctac tcaacagctg cctcagcccc ttcctctgcc tcatggccag tgccgacctc      900
cggaccctgc tgcgctccgt gctctcgtcc ttcgcggcag ctctctgcga ggagcggccg      960
ggcagcttca cgccactga gccacagacc cagctagatt ctgaggggtcc aactctgcca     1020
gagccgatgg cagaggccca gtcacagatg gatcctgtgg cccagcctca ggtgaacccc     1080
acactccagc cacgatcgga tcccacagct cagccacagc tgaaccctac ggcccagcca     1140
cagtcggatc ccacagccca gccacagctg aacctcatgg cccagccaca gtcagattct     1200
gtggcccagc cacaggcaga cactaacgtc cagaccctg cacctgtgtc c              1251

```

```

<210> 68
<211> 417
<212> PRT
<213> Homo sapiens

```

```
<400> 68
```

```

Thr Thr Met Glu Ala Asp Leu Gly Ala Thr Gly His Arg Pro Arg Thr
1          5          10          15

```

```

Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly Gly Trp Asp Thr Val
          20          25          30

```

```

Phe Leu Val Ala Leu Leu Leu Leu Gly Leu Pro Ala Asn Gly Leu Met
          35          40          45

```

```

Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly Ala Gly Thr Arg Leu
          50          55          60

```

```

Ala Leu Leu Leu Leu Ser Leu Ala Leu Ser Asp Phe Leu Phe Leu Ala
          65          70          75          80

```

```

Ala Ala Ala Phe Gln Ile Leu Glu Ile Arg His Gly Gly His Trp Pro
          85          90          95

```

```

Leu Gly Thr Ala Ala Cys Arg Phe Tyr Tyr Phe Leu Trp Gly Val Ser
          100          105          110

```

```

Tyr Ser Ser Gly Leu Phe Leu Leu Ala Ala Leu Ser Leu Asp Arg Cys
          115          120          125

```

```

Leu Leu Ala Leu Cys Pro His Trp Tyr Pro Gly His Arg Pro Val Arg
          130          135          140

```

```

Leu Pro Leu Trp Val Cys Ala Gly Val Trp Val Leu Ala Thr Leu Phe
          145          150          155          160

```

```

Ser Val Pro Trp Leu Val Phe Pro Glu Ala Ala Val Trp Trp Tyr Asp

```

165

170

175

Leu Val Ile Cys Leu Asp Phe Trp Asp Ser Glu Glu Leu Ser Leu Arg
180 185 190

Met Leu Glu Val Leu Gly Gly Phe Leu Pro Phe Leu Leu Leu Leu Val
195 200 205

Cys His Val Leu Thr Gln Ala Thr Ala Cys Arg Thr Cys His Arg Gln
210 215 220

Gln Gln Pro Ala Ala Cys Arg Gly Phe Ala Arg Val Ala Arg Thr Ile
225 230 235 240

Leu Ser Ala Tyr Val Val Leu Arg Leu Pro Tyr Gln Leu Ala Gln Leu
245 250 255

Leu Tyr Leu Ala Phe Leu Trp Asp Val Tyr Ser Gly Tyr Leu Leu Trp
260 265 270

Glu Ala Leu Val Tyr Ser Asp Tyr Leu Ile Leu Leu Asn Ser Cys Leu
275 280 285

Ser Pro Phe Leu Cys Leu Met Ala Ser Ala Asp Leu Arg Thr Leu Leu
290 295 300

Arg Ser Val Leu Ser Ser Phe Ala Ala Ala Leu Cys Glu Glu Arg Pro
305 310 315 320

Gly Ser Phe Thr Pro Thr Glu Pro Gln Thr Gln Leu Asp Ser Glu Gly
325 330 335

Pro Thr Leu Pro Glu Pro Met Ala Glu Ala Gln Ser Gln Met Asp Pro
340 345 350

Val Ala Gln Pro Gln Val Asn Pro Thr Leu Gln Pro Arg Ser Asp Pro
355 360 365

Thr Ala Gln Pro Gln Leu Asn Pro Thr Ala Gln Pro Gln Ser Asp Pro
370 375 380

Thr Ala Gln Pro Gln Leu Asn Leu Met Ala Gln Pro Gln Ser Asp Ser
385 390 395 400

Val Ala Gln Pro Gln Ala Asp Thr Asn Val Gln Thr Pro Ala Pro Ala
405 410 415

Ala

<210> 69
 <211> 659
 <212> DNA
 <213> Homo sapiens

<400> 69
 tacaggcctg agcatgctgg gctccatcag caccaagcac tgccgtgtcca tccgtgtggcc 60
 catctagtagc cgctgccacc accccacaca cctgtcagca gtcgtgtgtc ctgctctggg 120
 ccctgtccct gctgcagagc atcctggaat ggatgttctg tggcttcctg tctagtgggtg 180
 ctgattctgt ttggtgtgaa acatcagatt tcatcacagt cacatggctg atttttttat 240
 gtgtgggttct ctgcgggtcc agcccggttc tgctggtcag gatcctttgt ggatcccga 300
 agatgccctt gaccaggctg tacatgacca tccgtgtcag agtgctggtc ttctctctct 360
 gtgacctgcc ctttggcatt cagtgtattcc ttttttctg gatccacgtg gatttgtcac 420
 gttcgtctag tttccatttt cctgtccact cttaacagca gtgccaaccc cattatttac 480
 ttcttcatgg gtccttttag gcagcttcaa aacaggaaga ctctctagct ggttctccag 540
 agggctctgc aggacacgcc tgaggtggaa gaaggcagat ggcggctttc tgaggaaacc 600
 ctggagctgt catgaagcag attggggcca tgaggaagag cctctgccct gtcagtcag 659

<210> 70
 <211> 213
 <212> PRT
 <213> Homo sapiens

<400> 70

Tyr Arg Pro Glu His Ala Gly Leu His Gln His Gln Ala Leu Pro Val
 1 5 10 15

His Pro Val Ala His Leu Val Pro Leu Pro Pro Pro His Thr Pro Val
 20 25 30

Ser Ser Arg Val Ser Cys Ser Gly Pro Cys Pro Cys Cys Arg Ala Ser
 35 40 45

Trp Asn Gly Cys Ser Val Ala Ser Cys Leu Val Val Leu Ile Leu Phe
 50 55 60

Gly Val Lys His Gln Ile Ser Ser Gln Ser His Gly Phe Phe Tyr Val
 65 70 75 80

Trp Phe Ser Ala Gly Pro Ala Arg Phe Cys Trp Ser Gly Ser Phe Val
 85 90 95

Asp Pro Gly Arg Cys Pro Pro Gly Cys Thr Pro Ser Cys Ser Glu Cys
 100 105 110

Trp Ser Ser Ser Ser Val Thr Cys Pro Leu Ala Phe Ser Asp Ser Tyr
 115 120 125

Phe Ser Gly Ser Thr Trp Ile Cys His Val Arg Leu Val Ser Ile Phe
 130 135 140

Leu Ser Thr Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe Met
 145 150 155 160

Gly Ser Phe Arg Gln Leu Gln Asn Arg Lys Thr Leu Leu Val Leu Gln
 165 170 175

Arg Ala Leu Gln Asp Thr Pro Glu Val Glu Glu Gly Arg Trp Arg Leu
 180 185 190

Ser Glu Glu Thr Leu Glu Leu Ser Ser Arg Leu Gly Pro Gly Arg Ala
 195 200 205

Ser Ala Leu Ser Val
 210

<210> 71
 <211> 559
 <212> DNA
 <213> Homo sapiens

<400> 71
 atgccgaagg caggccgcag aagagaagag gaggacggtg aggaggatga gcccagggaa 60
 gcccgggggt gggggccgct gggggcctcg ctccaccgc agcagcagca taaggctggc 120
 cccacacatg gtgcaacaca gcagagccag cagcaccgct gccaccagcc acagcgccg 180
 gcacaagtgg cggctgggct cccgaagaa ctgggtgcag gcgccgctga gcagcaggtg 240
 cagcagcagg cagagggccc aggtgagggc gcacacacag gtggtcaggt ggcgtgggcg 300
 gcggcacgag taccaggctg ggaagagggc ggccaggcac tgctccacgc tgacggccgc 360
 caggagactc aggccacga ttagcagaa gaagcgcagc gttgccaggc tggctctgcac 420
 gaagcccggg aagtccagcc ggccttgag caagtcggg acgatggcca ccatgtggca 480
 gccaaaggaag atgagatccg cgcaggccac gtccaggagg tagatggcga aagggtttct 540
 gtagacattg gagctgagc 559

<210> 72
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 72

Leu Ser Ser Asn Val Tyr Arg Asn Pro Phe Ala Ile Tyr Leu Leu Asp
 1 5 10 15

Val Ala Cys Ala Asp Leu Ile Phe Leu Gly Cys His Met Val Ala Ile
20 25 30

Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe Pro Gly Phe Val Gln
35 40 45

Thr Ser Leu Ala Thr Leu Arg Phe Phe Cys Tyr Ile Val Gly Leu Ser
50 55 60

Leu Leu Ala Ala Val Ser Val Glu Gln Cys Leu Ala Ala Leu Phe Pro
65 70 75 80

Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu Thr Thr Cys Val Cys
85 90 95

Ala Leu Thr Trp Ala Leu Cys Leu Leu His Leu Thr Thr Cys Val
100 105 110

Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His Leu Leu Leu Ser
115 120 125

Gly Ala Cys Thr Leu Leu Leu Ser Gly Ala Cys Thr Gln Phe Phe Gly
130 135 140

Glu Pro Ser Arg His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val
145 150 155 160

Leu Leu Ala Leu Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu
165 170 175

Leu Leu Arg Val Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe
180 185 190

Pro Gly Leu Ile Leu Leu Thr Val Leu Leu Phe Ser Ser Ala Ala Cys
195 200 205

Leu Arg His
210

<210> 73
<211> 1008
<212> DNA
<213> Homo sapiens

<400> 73
atggaatcat ctttctcatt tggagtgatc cttgctgtcc tggcctccct catcattgct 60
actaacacac tagtggctgt ggctgtgctg ctgttgatcc acaagaatga tgggtgtcagt 120
ctctgcttca ccttgaatct ggctgtggct gacaccttga ttggtgtggc catctctggc 180

```

ctactcacag accagctctc cagcccttct cggcccacac agaagaccct gtgcagcctg      240
cggatggcat ttgtcacttc ctccgcagct gcctctgtcc tcacggtcac gctgatcacc      300
tttgacaggt accttgccat caagcagccc ttccgctact tgaagatcat gagtgggttc      360
gtggccgggg cctgcattgc cgggctgtgg ttagtgtctt acctcattgg cttcctccca      420
ctcggaatcc ccatgttcca gcagactgcc tacaaggggc agtgcagctt ctttgctgta      480
tttcaccctc acttcgtgct gaccctctcc tgcgttggct tcttccagc catgctcctc      540
tttgtcttct tctactgcca catgctcaag attgcctcca tgcacagcca gcagattcga      600
aagatggaac atgcaggagc catggctgga gggtatcgat cccacaggac tccagcgac      660
ttcaaagctc tccgtactgt gtctgttctc attgggagct ttgctctatc ctggaccccc      720
ttccttatca ctggcattgt gcagggtggc tgccaggagt gtcacctcta cctagtgtg      780
gaacggtacc tgtggctgct cggcgtgggc aactccctgc tcaaccact catctatgcc      840
tattggcaga aggaggtgcg actgcagctc taccacatgg ccctaggagt gaagaaggtg      900
ctcacctcat tctcctctt tctctggcc aggaattgtg gccagagag gccagggaa      960
agttcctgtc acatcgtcac tatctccagc tcagagtttg atggctaa      1008

```

```

<210> 74
<211> 335
<212> PRT
<213> Homo sapiens

```

```
<400> 74
```

```

Met Glu Ser Ser Phe Ser Phe Gly Val Ile Leu Ala Val Leu Ala Ser
1           5           10          15

```

```

Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
20          25          30

```

```

Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
35          40          45

```

```

Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
50          55          60

```

```

Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
65          70          75          80

```

```

Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85          90          95

```

```

Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
100         105         110

```

411USPHRM311.ST25.txt

Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
115 120 125

Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
130 135 140

Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
145 150 155 160

Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
165 170 175

Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
180 185 190

Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
195 200 205

Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
210 215 220

Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
225 230 235 240

Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
245 250 255

Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
260 265 270

Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
275 280 285

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
290 295 300

Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
305 310 315 320

Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
325 330 335

<210> 75
<211> 2137
<212> DNA
<213> Homo sapiens

<400> 75
aactggaagg gcagccgtct gccgcccacg aacaccttct caagcacttt gactgaccac 60

ggcttgcaag ctggtggctg gcccccgag tcccgggctc tgaggcacgg ccgtcgactt 120

aagcgttgca tcctgttacc tggagaccct ctgagctctc acctgctact tctgccgctg	180
cttctgcaca gagcccgggc gaggaccct ccaggatgca ggtcccgaac agcaccggcc	240
cggacaacgc gagctgcag atgctgcgga acccgcgat cgcggtggcc ctgccgtgg	300
tgtactcgct ggtggcgcg gtcagcatcc cgggcaacct cttctctctg tgggtgctgt	360
gccggcgcat ggggccaga tccccgtcgg tcatcttcat gatcaacctg agcgtcacgg	420
acctgatgct ggccagcgtg ttgcctttcc aaatctacta ccattgcaac cgccaccact	480
gggtattcgg ggtgctgctt tgcaacgtgg tgaccgtggc cttttacgca aacatgtatt	540
ccagcatcct caccatgacc tgtatcagcg tggagcgctt cctgggggtc ctgtaccgc	600
tcagctccaa gcgctggcgc cgcgctcgtt acgcggtggc cgcggtgca gggacctggc	660
tgctgctcct gaccgcctg tccccgtgg cgcgaccga tctcacctac ccggtgcacg	720
ccctgggcat catcacctgc ttcgacgtcc tcaagtggac gatgctccc agcgtggcca	780
tgtgggccgt gttcctcttc accatcttca tcctgctgtt cctcatccc ttcgtgatca	840
ccgtggcttg ttacacggcc accatcctca agctgttgcg cacggaggag gcgcacggcc	900
gggagcagcg gaggcgcgc gtgggcctgg ccgcggtggc cttgctggcc tttgtcacct	960
gcttcgcccc caacaacttc gtgctcctgg cgcacatcgt gagccgcctg ttctacggca	1020
agagctacta ccacgtgtac aagctcacgc tgtgtctcag ctgcctcaac aactgtctgg	1080
accggttgt ttattacttt gcgtcccggt aattccagct gcgcctgcgg gaatatttg	1140
gctgccgcg ggtgccaga gacacctg acacgcgcg cgagagcctc ttctccgcca	1200
ggaccacgtc cgtgcgctcc gaggcgggtg cgcacctga agggatggag ggagccacca	1260
ggcccgccct ccagaggcag gagagtgtgt tctgagtcct gggggcgag cttggagagc	1320
cggggcgca gcttgagga tccagggcg catggagagg ccacggtgcc agaggttcag	1380
ggagaacagc tgcgttgctc ccaggcactg cagaggccc gtggggaagg gtctccaggc	1440
tttatctctc ccaggcactg cagaggcacc ggtgaggaag ggtctccagg cttcactcag	1500
ggtagagaaa caagcaaagc ccagcagcgc acagggtgct tgttatcctg cagagggtgc	1560
ctctgcctct ctgtgtcagg ggacagcttg tgtcaccacg ccggtaat tttgtattt	1620
tttttagtag agctgggctg tcacccccga gtccttaga cactcctcac acctgtccat	1680
accgaggat ggatattcaa ccagccccc cgcctaccg actcggtttc tggatatcct	1740
ctgtggcgga actgcgagcc ccattcccag ctcttctccc tgetgacatc gtcccttagc	1800
acacctgtcc ataccgagg atggatattc aaccagcccc accgcctacc cgactcggtt	1860
tctggatata ctctgtgggc gaactgcgag cccattccc agctcttctc cctgctgaca	1920
tcgtccctta gttgtggttc tggccttctc cattctctc caggggttct ggtctccgta	1980
gcccggtgca cgccgaaatt tctgtttatt tactcaggg gcactgtggt tgctgtggtt	2040

ggaattcttc tttcagagga ggcctgggg ctcctgcaag tcagctactc tccgtgccca 2100
 cttcccctca cacacacacc cccctcgtgc cgaattc 2137

<210> 76
 <211> 359
 <212> PRT
 <213> Homo sapiens

<400> 76

Met Gln Val Pro Asn Ser Thr Gly Pro Asp Asn Ala Thr Leu Gln Met
 1 5 10 15

Leu Arg Asn Pro Ala Ile Ala Val Ala Leu Pro Val Val Tyr Ser Leu
 20 25 30

Val Ala Ala Val Ser Ile Pro Gly Asn Leu Phe Ser Leu Trp Val Leu
 35 40 45

Cys Arg Arg Met Gly Pro Arg Ser Pro Ser Val Ile Phe Met Ile Asn
 50 55 60

Leu Ser Val Thr Asp Leu Met Leu Ala Ser Val Leu Pro Phe Gln Ile
 65 70 75 80

Tyr Tyr His Cys Asn Arg His His Trp Val Phe Gly Val Leu Leu Cys
 85 90 95

Asn Val Val Thr Val Ala Phe Tyr Ala Asn Met Tyr Ser Ser Ile Leu
 100 105 110

Thr Met Thr Cys Ile Ser Val Glu Arg Phe Leu Gly Val Leu Tyr Pro
 115 120 125

Leu Ser Ser Lys Arg Trp Arg Arg Arg Arg Tyr Ala Val Ala Ala Cys
 130 135 140

Ala Gly Thr Trp Leu Leu Leu Thr Ala Leu Ser Pro Leu Ala Arg
 145 150 155 160

Thr Asp Leu Thr Tyr Pro Val His Ala Leu Gly Ile Ile Thr Cys Phe
 165 170 175

Asp Val Leu Lys Trp Thr Met Leu Pro Ser Val Ala Met Trp Ala Val
 180 185 190

Phe Leu Phe Thr Ile Phe Ile Leu Leu Phe Leu Ile Pro Phe Val Ile
 195 200 205

Thr Val Ala Cys Tyr Thr Ala Thr Ile Leu Lys Leu Leu Arg Thr Glu

210

215

220

Glu Ala His Gly Arg Glu Gln Arg Arg Arg Ala Val Gly Leu Ala Ala
 225 230 235 240

Val Val Leu Leu Ala Phe Val Thr Cys Phe Ala Pro Asn Asn Phe Val
 245 250 255

Leu Leu Ala His Ile Val Ser Arg Leu Phe Tyr Gly Lys Ser Tyr Tyr
 260 265 270

His Val Tyr Lys Leu Thr Leu Cys Leu Ser Cys Leu Asn Asn Cys Leu
 275 280 285

Asp Pro Phe Val Tyr Tyr Phe Ala Ser Arg Glu Phe Gln Leu Arg Leu
 290 295 300

Arg Glu Tyr Leu Gly Cys Arg Arg Val Pro Arg Asp Thr Leu Asp Thr
 305 310 315 320

Arg Arg Glu Ser Leu Phe Ser Ala Arg Thr Thr Ser Val Arg Ser Glu
 325 330 335

Ala Gly Ala His Pro Glu Gly Met Glu Gly Ala Thr Arg Pro Gly Leu
 340 345 350

Gln Arg Gln Glu Ser Val Phe
 355

<210> 77
 <211> 1197
 <212> DNA
 <213> Homo sapiens

<400> 77
 atggagtcgg ggctgctgcg gccggcgccg gtgagcgagg tcatcgctct gcattacaac 60
 tacaccggca agctccgcgg tcgcgctac cagccgggtg ccggcctgcg cgccgacgcc 120
 gtggtgtgcc tggcgggtgtg cgccttcacg gtgctagaga atctagccgt gttgttggtg 180
 ctcggaacgc acccgcgctt ccacgctccc atgttctctg tcttgggcag cctcacgttg 240
 tcggatctgc tggcaggcgc cgctacgcc gccaacatcc tactgtcggg gccgctcacg 300
 ctgaaactgt ccccgcgct ctggttcgca cgggaggag gcgtcttctg ggcactcact 360
 gcgtccgtgc tgagcctcct ggccatcgcg ctggagcgca gcctcaccat ggcgcgagg 420
 gggcccgcg ccgtctccag tcgggggcgc acgctggcga tggcagccgc ggctggggc 480
 gtgtcgctgc tctcgggct cctgccagcg ctgggctgga attgcctggg tcgcctggac 540
 gcttgctcca ctgtcttgcc gctctacgcc aaggcctacg tgctcttctg cgtgctcgcc 600

411USPHRM311.ST25.txt

```

ttcgtgggca tcctggccgc tatctgtgca ctctacgcgc gcatctactg ccaggtagcg 660
gccaacgcgc gggcctgcc ggacggccc gggactgcgg ggaccacctc gaccgggcg 720
cgtcgcaagc cgcgctcgct ggccttgctg cgcacgctca gcgtggtgct cctggccttt 780
gtggcatgtt ggggccccct cttcctgctg ctgttgctcg acgtggcgtg cccggcgcg 840
acctgtcctg tactcctgca ggccgatccc ttcctgggac tggccatggc caactcactt 900
ctgaacccca tcatctacac gtcaccaac cgcgacctgc gccacgcgct cctgcgcctg 960
gtctgctgcg gacgccactc ctgcggcaga gaccogagtg gctcccagca gtcggcgagc 1020
gcggctgagg cttccggggg cctgcgccgc tgctgcccc cgggccttga tgggagcttc 1080
agcggctcgg agcgcctcgc gcccagcgc gacgggctgg acaccagcgg ctccacaggc 1140
agccccggtg caccacagc cgcccgact ctggtatcag aaccggctgc agactga 1197

```

<210> 78
 <211> 398
 <212> PRT
 <213> Homo sapiens

<400> 78

```

Met Glu Ser Gly Leu Leu Arg Pro Ala Pro Val Ser Glu Val Ile Val
1           5           10          15

```

```

Leu His Tyr Asn Tyr Thr Gly Lys Leu Arg Gly Ala Arg Tyr Gln Pro
20          25          30

```

```

Gly Ala Gly Leu Arg Ala Asp Ala Val Val Cys Leu Ala Val Cys Ala
35          40          45

```

```

Phe Ile Val Leu Glu Asn Leu Ala Val Leu Leu Val Leu Gly Arg His
50          55          60

```

```

Pro Arg Phe His Ala Pro Met Phe Leu Leu Leu Gly Ser Leu Thr Leu
65          70          75          80

```

```

Ser Asp Leu Leu Ala Gly Ala Ala Tyr Ala Ala Asn Ile Leu Leu Ser
85          90          95

```

```

Gly Pro Leu Thr Leu Lys Leu Ser Pro Ala Leu Trp Phe Ala Arg Glu
100         105         110

```

```

Gly Gly Val Phe Val Ala Leu Thr Ala Ser Val Leu Ser Leu Leu Ala
115         120         125

```

```

Ile Ala Leu Glu Arg Ser Leu Thr Met Ala Arg Arg Gly Pro Ala Pro
130         135         140

```

```

Val Ser Ser Arg Gly Arg Thr Leu Ala Met Ala Ala Ala Ala Trp Gly

```

```

145                      150                      155                      160

Val Ser Leu Leu Leu Gly Leu Leu Pro Ala Leu Gly Trp Asn Cys Leu
      165                      170                      175

Gly Arg Leu Asp Ala Cys Ser Thr Val Leu Pro Leu Tyr Ala Lys Ala
      180                      185                      190

Tyr Val Leu Phe Cys Val Leu Ala Phe Val Gly Ile Leu Ala Ala Ile
      195                      200                      205

Cys Ala Leu Tyr Ala Arg Ile Tyr Cys Gln Val Arg Ala Asn Ala Arg
      210                      215                      220

Arg Leu Pro Ala Arg Pro Gly Thr Ala Gly Thr Thr Ser Thr Arg Ala
      225                      230                      235                      240

Arg Arg Lys Pro Arg Ser Leu Ala Leu Leu Arg Thr Leu Ser Val Val
      245                      250                      255

Leu Leu Ala Phe Val Ala Cys Trp Gly Pro Leu Phe Leu Leu Leu Leu
      260                      265                      270

Leu Asp Val Ala Cys Pro Ala Arg Thr Cys Pro Val Leu Leu Gln Ala
      275                      280                      285

Asp Pro Phe Leu Gly Leu Ala Met Ala Asn Ser Leu Leu Asn Pro Ile
      290                      295                      300

Ile Tyr Thr Leu Thr Asn Arg Asp Leu Arg His Ala Leu Leu Arg Leu
      305                      310                      315                      320

Val Cys Cys Gly Arg His Ser Cys Gly Arg Asp Pro Ser Gly Ser Gln
      325                      330                      335

Gln Ser Ala Ser Ala Ala Glu Ala Ser Gly Gly Leu Arg Arg Cys Leu
      340                      345                      350

Pro Pro Gly Leu Asp Gly Ser Phe Ser Gly Ser Glu Arg Ser Ser Pro
      355                      360                      365

Gln Arg Asp Gly Leu Asp Thr Ser Gly Ser Thr Gly Ser Pro Gly Ala
      370                      375                      380

Pro Thr Ala Ala Arg Thr Leu Val Ser Glu Pro Ala Ala Asp
      385                      390                      395

```

<210> 79
 <211> 1041

<212> DNA

<213> Homo sapiens

<400> 79

```

atgtacaacg ggtcgtgctg ccgcatcgag ggggacacca tctcccaggt gatgccgccg      60
ctgctcattg tggcctttgt gctggggcgca ctaggcaatg gggtcgccct gtgtggtttc      120
tgcttcacac tgaagacctg gaagcccagc actgtttacc ttttcaattt ggccgtggct      180
gatttcctcc ttatgatctg cctgcctttt cggacagact attacctcag acgtagacac      240
tgggcttttg gggacattcc ctgccgagtg gggctcttca cgttggccat gaacagggcc      300
gggagcatcg tgttccttac ggtggtggct gcggacaggt atttcaaagt ggtccacccc      360
caccacgctg tgaacactat ctccaccggt gtggcggtcg gcatcgtctg caccctgtgg      420
gccctgggtc tcctgggaac agtgtatctt ttgctggaga accatctctg cgtgcaagag      480
acggcogtct cctgtgagag cttcatcatg gagtcggcca atggctggca tgacatcatg      540
ttccagctgg agttctttat gccctcggc atcatcttat tttgctcctt caagattgtt      600
tggagcctga ggcggaggca gcagctggcc agacaggctc ggatgaagaa ggcgaccgg      660
ttcatcatgg tgggtggcaat tgtgttcac acatgctacc tgcccagcgt gtctgctaga      720
ctctatttcc tctggacggt gccctcgagt gcctgcgatc cctctgtcca tggggccctg      780
cacataaccc tcagcttcac ctacatgaac agcatgctgg atcccctggt gtattatatt      840
tcaagcccct cctttcccaa attctacaac aagctcaaaa tctgcagtct gaaacccaag      900
cagccaggac actcaaaaac acaaaggccg gaagagatgc caatttcgaa cctcggtcgc      960
aggagtgtga tcagtgtggc aaatagtttc caaagccagt ctgatgggca atgggatccc     1020
cacattgttg agtggcactg a                                     1041

```

<210> 80

<211> 346

<212> PRT

<213> Homo sapiens

<400> 80

```

Met Tyr Asn Gly Ser Cys Cys Arg Ile Glu Gly Asp Thr Ile Ser Gln
1           5           10          15

```

```

Val Met Pro Pro Leu Leu Ile Val Ala Phe Val Leu Gly Ala Leu Gly
          20          25          30

```

```

Asn Gly Val Ala Leu Cys Gly Phe Cys Phe His Met Lys Thr Trp Lys
          35          40          45

```

```

Pro Ser Thr Val Tyr Leu Phe Asn Leu Ala Val Ala Asp Phe Leu Leu
          50          55          60

```

```

Met Ile Cys Leu Pro Phe Arg Thr Asp Tyr Tyr Leu Arg Arg Arg His

```

```

65              70              75              80

Trp Ala Phe Gly Asp Ile Pro Cys Arg Val Gly Leu Phe Thr Leu Ala
      85              90              95

Met Asn Arg Ala Gly Ser Ile Val Phe Leu Thr Val Val Ala Ala Asp
      100             105             110

Arg Tyr Phe Lys Val Val His Pro His His Ala Val Asn Thr Ile Ser
      115             120             125

Thr Arg Val Ala Ala Gly Ile Val Cys Thr Leu Trp Ala Leu Val Ile
      130             135             140

Leu Gly Thr Val Tyr Leu Leu Leu Glu Asn His Leu Cys Val Gln Glu
      145             150             155             160

Thr Ala Val Ser Cys Glu Ser Phe Ile Met Glu Ser Ala Asn Gly Trp
      165             170             175

His Asp Ile Met Phe Gln Leu Glu Phe Phe Met Pro Leu Gly Ile Ile
      180             185             190

Leu Phe Cys Ser Phe Lys Ile Val Trp Ser Leu Arg Arg Arg Gln Gln
      195             200             205

Leu Ala Arg Gln Ala Arg Met Lys Lys Ala Thr Arg Phe Ile Met Val
      210             215             220

Val Ala Ile Val Phe Ile Thr Cys Tyr Leu Pro Ser Val Ser Ala Arg
      225             230             235             240

Leu Tyr Phe Leu Trp Thr Val Pro Ser Ser Ala Cys Asp Pro Ser Val
      245             250             255

His Gly Ala Leu His Ile Thr Leu Ser Phe Thr Tyr Met Asn Ser Met
      260             265             270

Leu Asp Pro Leu Val Tyr Tyr Phe Ser Ser Pro Ser Phe Pro Lys Phe
      275             280             285

Tyr Asn Lys Leu Lys Ile Cys Ser Leu Lys Pro Lys Gln Pro Gly His
      290             295             300

Ser Lys Thr Gln Arg Pro Glu Glu Met Pro Ile Ser Asn Leu Gly Arg
      305             310             315             320

Arg Ser Cys Ile Ser Val Ala Asn Ser Phe Gln Ser Gln Ser Asp Gly
      325             330             335

```

Gln Trp Asp Pro His Ile Val Glu Trp His
 340 345

<210> 81
 <211> 2525
 <212> DNA
 <213> Homo sapiens

<400> 81
 caagaatgac aggtgacttc ccaagtatgc ctggccacaa tacctccagg aattcctctt 60
 gcgatcctat agtgacaccc cacttaatca gcctctactt catagtgcct attggcgggc 120
 tgggtgggtgt catttccatt cttttcctcc tggtgaaaat gaacaccggt tcagtgacca 180
 ccatggcggt cattaacttg gtggtgggtcc acagcgtttt tctgctgaca gtgccatttc 240
 gcttgaccta cctcatcaag aagacttgga tgtttgggct gcccttctgc aaatttgtga 300
 gtgccatgct gcacatccac atgtacctca cgttcctatt ctatgtggtg atcctggtca 360
 ccagatacct catcttcttc aagtgcaaag acaaagtga attctacaga aaactgcatg 420
 ctgtggctgc cagtgcctggc atgtggacgc tgggtgattgt cattgtggta cccctggttg 480
 tctcccggtg tggaaatccat gaggaataca atgaggagca ctgtttttaa tttcacaaag 540
 agcttgctta cacatatgtg aaaatcatca actatatgat agtcattttt gtcatagccg 600
 ttgtctgat tctgttggtc ttccaggctc tcatcattat gttgatggtg cagaagctac 660
 gccactcttt actatccac caggagtctt gggtcagct gaaaaaccta ttttttatag 720
 gggtcacct tgtttgtttc cttccctacc agttcttttag gatctattac ttgaatgttg 780
 tgacgcattc caatgcctgt aacagcaagg ttgcatttta taacgaaatc ttcttgagtg 840
 taacagcaat tagctgctat gatttgcttc tctttgtctt tgggggaagc cattggttta 900
 agcaaaagat aattggctta tggaaattgtg ttttgtgccg ttagccacaa actacagtat 960
 tcatatttgc ttcctttata ttgggaataa aaatgggtat aggggaggta agaatggtat 1020
 ttcattactt gatcaaaacc atgccttgat gtacccaaaa caaaaggact ataaaatgca 1080
 agagccctca ttgtagtcct tatgggatcc ctcccatctc tgagtgatgg ccgtacaaaag 1140
 accagtgttg ttgaatccac ctggagttgc aatattacat tattttccag tacagaatgt 1200
 ctgtgtggcc catgaaagca acatagggtt taagagtttt agagtttcat tagctcattc 1260
 taagtctctc tgtttgaagc atggtctctt aggttttga ctgaactcag acctttagtt 1320
 cttttcatcc cacttcacct taggtaagta aattctggcc accaccagc tcaaagaca 1380
 caaactctcc ttcgctaacc aggttagatg tccattcat ctcatgccct gataaaaact 1440
 gataagggga gagaatagtt aaaaattttt ctagggtatc ataactctgg taggaagtca 1500
 tctgtctaga aatcaagaga aaaagaacgt gtggcctcct gttataacaa gggtttctag 1560
 atttgtcctg tgaaaggctg ttaaggact tggggatcaa cttcctcaat tatcaccaat 1620

411USPHRM311.ST25.txt

```

tgcactgttg ctccaaaaat catttaaaag cttactggac atatctacat aatggtgaaa 1680
ctgtaattta gagactatcc ctgactaatg tgctggtagg cattaaaatg agttcccaag 1740
ggaagtgatt aaaatttttt tctcttctgt tttttgagag aatttctaga tgtcctgggc 1800
cacagttaat taagattttt aggggggaca gaaagttata ctgaaatctt tagagctccc 1860
ttccgccgtt aaaattatat atatatatat ttaaattata ccttaagttc tggggtacat 1920
gtgcagaatg tgcaggtttg ttacataggt atacacgtgc catggtggtt tgcggcacct 1980
gtcaacccat ctacattagg tattttctct aatgctctcc ctcccctagc cccccacccc 2040
tggacaggcc ccattgtgtg atgttcccct ccctgtgtcc atgtgttttc attgttcaac 2100
tcccacttct aagtgagaac atgcggtgtt tggttttctg ttctgtgtt agtttgctga 2160
gaatgatggt ttccagggtt aaattatata tttttaaata aatgaaaact gtgtttttaa 2220
aagaggactt ttgagaagta tatagaaaaa ccattaattt agactctgtg agattaggtt 2280
gcatgaagaa ggttttctga atatttgaag agtggataaa taaatgtccc ccaaagcaat 2340
aaaatcataa tcctttaaaa tataggaaaa ataactaatg ggaactaggc ttaatactcg 2400
ggatgaaata atctgtacaa caaactccca tgacacatgt ttacctatgt aacaaacctg 2460
cacatgtacc cctgaactta aaataaaatt taaagtataa taataaaata atatggattt 2520
tctttt 2525

```

<210> 82
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 82

Met Thr Gly Asp Phe Pro Ser Met Pro Gly His Asn Thr Ser Arg Asn
 1 5 10 15

Ser Ser Cys Asp Pro Ile Val Thr Pro His Leu Ile Ser Leu Tyr Phe
 20 25 30

Ile Val Leu Ile Gly Gly Leu Val Gly Val Ile Ser Ile Leu Phe Leu
 35 40 45

Leu Val Lys Met Asn Thr Arg Ser Val Thr Thr Met Ala Val Ile Asn
 50 55 60

Leu Val Val Val His Ser Val Phe Leu Leu Thr Val Pro Phe Arg Leu
 65 70 75 80

Thr Tyr Leu Ile Lys Lys Thr Trp Met Phe Gly Leu Pro Phe Cys Lys
 85 90 95

411USPHRM311.ST25.txt

Phe Val Ser Ala Met Leu His Ile His Met Tyr Leu Thr Phe Leu Phe
 100 105 110

Tyr Val Val Ile Leu Val Thr Arg Tyr Leu Ile Phe Phe Lys Cys Lys
 115 120 125

Asp Lys Val Glu Phe Tyr Arg Lys Leu His Ala Val Ala Ala Ser Ala
 130 135 140

Gly Met Trp Thr Leu Val Ile Val Ile Val Val Pro Leu Val Val Ser
 145 150 155 160

Arg Tyr Gly Ile His Glu Glu Tyr Asn Glu Glu His Cys Phe Lys Phe
 165 170 175

His Lys Glu Leu Ala Tyr Thr Tyr Val Lys Ile Ile Asn Tyr Met Ile
 180 185 190

Val Ile Phe Val Ile Ala Val Ala Val Ile Leu Leu Val Phe Gln Val
 195 200 205

Phe Ile Ile Met Leu Met Val Gln Lys Leu Arg His Ser Leu Leu Ser
 210 215 220

His Gln Glu Phe Trp Ala Gln Leu Lys Asn Leu Phe Phe Ile Gly Val
 225 230 235 240

Ile Leu Val Cys Phe Leu Pro Tyr Gln Phe Phe Arg Ile Tyr Tyr Leu
 245 250 255

Asn Val Val Thr His Ser Asn Ala Cys Asn Ser Lys Val Ala Phe Tyr
 260 265 270

Asn Glu Ile Phe Leu Ser Val Thr Ala Ile Ser Cys Tyr Asp Leu Leu
 275 280 285

Leu Phe Val Phe Gly Gly Ser His Trp Phe Lys Gln Lys Ile Ile Gly
 290 295 300

Leu Trp Asn Cys Val Leu Cys Arg
 305 310

<210> 83
 <211> 1125
 <212> DNA
 <213> Homo sapiens

<400> 83
 gcaggagcac tgaaaatcag gaacaatcct gtattttttg tgataatcaa caaggacaaa 60
 acttctccat atgtaaataa cagcggttatg agcagcaatt catccctgct ggtggctgtg 120

```

cagctgtgct acgcaacgt gaatgggtcc tgtgtgaaaa tccccttctc gccgggatcc 180
cgggtgattc tgtacatagt gtttggtttt ggggctgtgc tggtgtgtt tggaaacctc 240
ctggtgatga tttcaatcct ccatttcaag cagctgcact ctccgaccaa ttttctcgtt 300
gcctctctgg cctgcgctga tttcttggtg ggtgtgactg tgatgccctt cagcatggtc 360
aggacggtgg agagctgctg gtattttggg aggagttttt gtactttcca cacctgctgt 420
gatgtggcat tttgttactc ttctctcttt cacttgtgct tcctctccat cgacaggtac 480
attgcggtta ctgaccccct ggtctatcct accaagttca ccgtatctgt gtcaggaatt 540
tgcacagcgg tgcctggat cctgcccctc atgtacagcg gtgtgtgtt ctacacaggt 600
gtctatgacg atgggctgga ggaattatct gatgccctaa actgtatagg aggttgtcag 660
accgttgtaa atcaaaactg ggtgttgaca gattttctat ccttctttat acctacctt 720
attatgataa ttctgtatgg taacatattt cttgtggcta gacgacaggc gaaaaagata 780
gaaaatactg gtagcaagac agaatcatcc tcagagagtt acaaagccag agtggccagg 840
agagagagaa aagcagctaa aaccctgggg gtcacagtgg tagcatttat gatttcatgg 900
ttaccatata gcattgattc attaatgat gcctttatgg gctttataac ccctgcctgt 960
atztatgaga ttgctgttg gtgtgcttat tataactcag ccatgaatcc tttgatttat 1020
gctttatttt acccatgggt taggaaagca ataaaagtta ttgtaactgg tcagggttta 1080
aagaacagtt cagcaaccat gaatttggtt tctgaacata tataa 1125

```

<210> 84
 <211> 345
 <212> PRT
 <213> Homo sapiens

<400> 84

```

Met Ser Ser Asn Ser Ser Leu Leu Val Ala Val Gln Leu Cys Tyr Ala
1          5          10          15

```

```

Asn Val Asn Gly Ser Cys Val Lys Ile Pro Phe Ser Pro Gly Ser Arg
          20          25          30

```

```

Val Ile Leu Tyr Ile Val Phe Gly Phe Gly Ala Val Leu Ala Val Phe
          35          40          45

```

```

Gly Asn Leu Leu Val Met Ile Ser Ile Leu His Phe Lys Gln Leu His
          50          55          60

```

```

Ser Pro Thr Asn Phe Leu Val Ala Ser Leu Ala Cys Ala Asp Phe Leu
65          70          75          80

```

```

Val Gly Val Thr Val Met Pro Phe Ser Met Val Arg Thr Val Glu Ser
          85          90          95

```

Cys Trp Tyr Phe Gly Arg Ser Phe Cys Thr Phe His Thr Cys Cys Asp
 100 105 110
 Val Ala Phe Cys Tyr Ser Ser Leu Phe His Leu Cys Phe Ile Ser Ile
 115 120 125
 Asp Arg Tyr Ile Ala Val Thr Asp Pro Leu Val Tyr Pro Thr Lys Phe
 130 135 140
 Thr Val Ser Val Ser Gly Ile Cys Ile Ser Val Ser Trp Ile Leu Pro
 145 150 155 160
 Leu Met Tyr Ser Gly Ala Val Phe Tyr Thr Gly Val Tyr Asp Asp Gly
 165 170 175
 Leu Glu Glu Leu Ser Asp Ala Leu Asn Cys Ile Gly Gly Cys Gln Thr
 180 185 190
 Val Val Asn Gln Asn Trp Val Leu Thr Asp Phe Leu Ser Phe Phe Ile
 195 200 205
 Pro Thr Phe Ile Met Ile Ile Leu Tyr Gly Asn Ile Phe Leu Val Ala
 210 215 220
 Arg Arg Gln Ala Lys Lys Ile Glu Asn Thr Gly Ser Lys Thr Glu Ser
 225 230 235 240
 Ser Ser Glu Ser Tyr Lys Ala Arg Val Ala Arg Arg Glu Arg Lys Ala
 245 250 255
 Ala Lys Thr Leu Gly Val Thr Val Val Ala Phe Met Ile Ser Trp Leu
 260 265 270
 Pro Tyr Ser Ile Asp Ser Leu Ile Asp Ala Phe Met Gly Phe Ile Thr
 275 280 285
 Pro Ala Cys Ile Tyr Glu Ile Cys Cys Trp Cys Ala Tyr Tyr Asn Ser
 290 295 300
 Ala Met Asn Pro Leu Ile Tyr Ala Leu Phe Tyr Pro Trp Phe Arg Lys
 305 310 315 320
 Ala Ile Lys Val Ile Val Thr Gly Gln Val Leu Lys Asn Ser Ser Ala
 325 330 335
 Thr Met Asn Leu Phe Ser Glu His Ile
 340 345

<210> 85
 <211> 1020
 <212> DNA
 <213> Homo sapiens

<400> 85
 accatgaatg agccactaga ctatttagca aatgcttctg atttccccga ttatgcagct 60
 gcttttggaa attgcactga tgaaaacatc ccactcaaga tgcactacct ccctgttatt 120
 tatggcatta tcttcctcgt gggatttcca ggcaatgcag tagtgatata cacttacatt 180
 ttcaaaatga gaccttggaa gagcagcacc atcattatgc tgaacctggc ctgcacagat 240
 ctgtctgata tgaccagcct ccccttcctg attcactact atgccagtgg cgaaaactgg 300
 atctttggag atttcatgtg taagtttatc cgcttcagct tccatttcaa cctgtatagc 360
 agcatcctct tcctcacctg tttcagcatc ttccgctact gtgtgatcat tcaccaatg 420
 agctgctttt ccattcacaa aactcgatgt gcagttgtag cctgtgctgt ggtgtggatc 480
 atttcaactgg tagctgtcat tccgatgacc ttcttgatca catcaaccaa caggaccaac 540
 agatcagcct gtctcgacct caccagttcg gatgaactca atactattaa gtggtacaac 600
 ctgattttga ctgcaagtac tttctgcctc cccttgggtga tagtgacact ttgctatacc 660
 acgattatcc acactttgac ccatggactg caaactgaca gctgccttaa gcagaaagca 720
 cgaaggctaa ccattctgct actccttgca ttttacgtat gttttttacc cttccatata 780
 ttgaggggtca ttcaggatcg aatctcagcc tgctttcaat cagttgttcc attgagaatc 840
 agatccatga agcttacatc gtttctagac cattatgctg ctctgaacac ctttggtaac 900
 ctgttactat atgtgggtgg cagcgacaac tttcagcagg ctgtctgctc aacagtgaga 960
 tgcaaagtaa gcgggaacct tgagcaagca aagaaaatta gttactcaaa caacccttga 1020

<210> 86
 <211> 336
 <212> PRT
 <213> Homo sapiens

<400> 86

Met Asn Glu Pro Leu Asp Tyr Leu Ala Asn Ala Ser Asp Phe Pro Asp
 1 5 10 15

Tyr Ala Ala Ala Phe Gly Asn Cys Thr Asp Glu Asn Ile Pro Leu Lys
 20 25 30

Met His Tyr Leu Pro Val Ile Tyr Gly Ile Ile Phe Leu Val Gly Phe
 35 40 45

Pro Gly Asn Ala Val Val Ile Ser Thr Tyr Ile Phe Lys Met Arg Pro
 50 55 60

411USPHRM311.ST25.txt

Trp Lys Ser Ser Thr Ile Ile Met Leu Asn Leu Ala Cys Thr Asp Leu
65 70 75 80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly
85 90 95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Ser
100 105 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser
115 120 125

Ile Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile
130 135 140

His Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile
145 150 155 160

Ser Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn
165 170 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu
180 185 190

Asn Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Ser Thr Phe Cys
195 200 205

Leu Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr
210 215 220

Leu Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg
225 230 235 240

Arg Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro
245 250 255

Phe His Ile Leu Arg Val Ile Gln Asp Arg Ile Ser Ala Cys Phe Gln
260 265 270

Ser Val Val Pro Leu Arg Ile Arg Ser Met Lys Leu Thr Ser Phe Leu
275 280 285

Asp His Tyr Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val
290 295 300

Val Val Ser Asp Asn Phe Gln Gln Ala Val Cys Ser Thr Val Arg Cys
305 310 315 320

Lys Val Ser Gly Asn Leu Glu Gln Ala Lys Lys Ile Ser Tyr Ser Asn

<210> 87
<211> 1138
<212> DNA
<213> Homo sapiens

<400> 87
 aaaaattgct gtactgaact attgaatgga acttggaat aaagtcctt ccaaaataac 60
 tattcttcaa cagagagtaa taggtaaatg ttttagaagt gagaggactc aaattgccaa 120
 tgatttactc ttttattttt cctcctaggt ttctgggata agtatgtgca aataaaaaat 180
 aaacatgaga aggaactgta acctgattat ggatttggga aaaagataaa tcaacacaca 240
 aagggaaaag taaactgatt gacagccctc aggaatgatg cccttttgcc acaatataat 300
 taatatttcc tgtgtgaaaa acaactggtc aaatgatgtc cgtgcttccc tgtacagttt 360
 aatgggtgctc ataattctga ccacactcgt tggcaatctg atagttattg tttctatatc 420
 acacttcaaa caacttcata cccaacaaa ttggctcatt cattccatgg ccactgtgga 480
 ctttcttctg ggggtgtctg tcatgcctta cagtatggtg agatctgctg agcactgttg 540
 gtatttttga gaagtcttct gtaaaattca cacaagcacc gacattatgc tgagctcagc 600
 ctccattttc catttgtctt tcatctccat tgaccgctac tatgctgtgt gtgatccact 660
 gagatataaa gccaagatga atatcttggg tatttgtgtg atgatcttca ttagttggag 720
 tgtccctgct gtttttgcac ttggaatgat ctttctggag ctaaacttca aaggcgctga 780
 agagatatat tacaaacatg ttcactgcag aggaggttgc tctgtcttct ttagcaaaat 840
 atctggggta ctgaccttta tgacttcttt ttatatacct ggatctatta tgttatgtgt 900
 ctattacaga atatatctta tcgctaaaga acaggcaaga ttaattagtg atgccaatca 960
 gaagctccaa attggatttg aaatgaaaaa tggaatttca caaagcaaag aaaggaaagc 1020
 tgtgaagaca ttggggattg tgatgggagt tttcctaata tgctgggtgcc ctttctttat 1080
 ctgtacagtc atggaccctt ttcttcacta cattattcca cctactttga atgatgta 1138

<210> 88
<211> 296
<212> PRT
<213> Homo sapiens

<400> 88
 Met Met Pro Phe Cys His Asn Ile Ile Asn Ile Ser Cys Val Lys Asn
 1 5 10 15
 Asn Trp Ser Asn Asp Val Arg Ala Ser Leu Tyr Ser Leu Met Val Leu
 20 25 30
 Ile Ile Leu Thr Thr Leu Val Gly Asn Leu Ile Val Ile Val Ser Ile
 35 40 45

Ser His Phe Lys Gln Leu His Thr Pro Thr Asn Trp Leu Ile His Ser
 50 55 60

Met Ala Thr Val Asp Phe Leu Leu Gly Cys Leu Val Met Pro Tyr Ser
 65 70 75 80

Met Val Arg Ser Ala Glu His Cys Trp Tyr Phe Gly Glu Val Phe Cys
 85 90 95

Lys Ile His Thr Ser Thr Asp Ile Met Leu Ser Ser Ala Ser Ile Phe
 100 105 110

His Leu Ser Phe Ile Ser Ile Asp Arg Tyr Tyr Ala Val Cys Asp Pro
 115 120 125

Leu Arg Tyr Lys Ala Lys Met Asn Ile Leu Val Ile Cys Val Met Ile
 130 135 140

Phe Ile Ser Trp Ser Val Pro Ala Val Phe Ala Phe Gly Met Ile Phe
 145 150 155 160

Leu Glu Leu Asn Phe Lys Gly Ala Glu Glu Ile Tyr Tyr Lys His Val
 165 170 175

His Cys Arg Gly Gly Cys Ser Val Phe Phe Ser Lys Ile Ser Gly Val
 180 185 190

Leu Thr Phe Met Thr Ser Phe Tyr Ile Pro Gly Ser Ile Met Leu Cys
 195 200 205

Val Tyr Tyr Arg Ile Tyr Leu Ile Ala Lys Glu Gln Ala Arg Leu Ile
 210 215 220

Ser Asp Ala Asn Gln Lys Leu Gln Ile Gly Leu Glu Met Lys Asn Gly
 225 230 235 240

Ile Ser Gln Ser Lys Glu Arg Lys Ala Val Lys Thr Leu Gly Ile Val
 245 250 255

Met Gly Val Phe Leu Ile Cys Trp Cys Pro Phe Phe Ile Cys Thr Val
 260 265 270

Met Asp Pro Phe Leu His Tyr Ile Ile Pro Pro Thr Leu Asn Asp Ala
 275 280 285

Arg Gly Ser Arg Ala Asn Ser Ala
 290 295

411USPHRM311.ST25.txt

<210> 89
 <211> 1023
 <212> DNA
 <213> Homo sapiens

<400> 89
 ggaatgatgc ccttttgcca caatataatt aatatttcct gtgtgaaaaa caactggtca 60
 aatgatgtcc gtgcttcct gtacagttta atgggtgtca taattctgac cacactcgtt 120
 ggcaatctga tagttattgt ttctatatca cacttcaaac aacttcatac cccaacaaat 180
 tggctcattc attccatggc .cactgtggac tttcttctgg ggtgtctggt catgccttac 240
 agtatggtga gatctgctga gcactgttgg tattttggag aagtcttctg taaaattcac 300
 acaagcaccg acattatgct gagctcagcc tccattttcc atttgtcttt catctccatt 360
 gaccgctact atgctgtgtg tgatccactg agatataaag ccaagatgaa tatcttggtt 420
 atttgtgtga tgatcttcat tagttggagt gtccctgtg tttttgcatt tggaatgatc 480
 tttctggagc taaacttcaa aggcgctgaa gagatatatt acaaacatgt tcaactgcaga 540
 ggaggttgct ctgtcttctt tagcaaaata tctgggggtac tgacctttat gacttctttt 600
 tatataacctg gatctattat gtatgtgtc tattacagaa tatatcttat cgctaaagaa 660
 caggcaagat taattagtga tgccaatcag aagctccaaa ttggattgga aatgaaaaat 720
 ggaatttcac aaagcaaaga aaggaaagct gtgaagacat tggggattgt gatgggagtt 780
 ttcctaatat gctgggtgcc tttctttatc tgtacagtca tggacccttt tcttcactac 840
 attattccac ctactttgaa tgatgtattg atttggtttg gctacttgaa ctctacattt 900
 aatccaatgg tttatgcatt tttctatcct tggtttagaa aagcactgaa gatgatgctg 960
 tttggtaaaa ttttccaaaa agattcatcc aggtgtaaatt tatttttgga attgagttca 1020
 tag 1023

<210> 90
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 90

Met Met Pro Phe Cys His Asn Ile Ile Asn Ile Ser Cys Val Lys Asn
 1 5 10 15

Asn Trp Ser Asn Asp Val Arg Ala Ser Leu Tyr Ser Leu Met Val Leu
 20 25 30

Ile Ile Leu Thr Thr Leu Val Gly Asn Leu Ile Val Ile Val Ser Ile
 35 40 45

Ser His Phe Lys Gln Leu His Thr Pro Thr Asn Trp Leu Ile His Ser
 50 55 60

```

Met Ala Thr Val Asp Phe Leu Leu Gly Cys Leu Val Met Pro Tyr Ser
65          70          75          80

Met Val Arg Ser Ala Glu His Cys Trp Tyr Phe Gly Glu Val Phe Cys
85          90          95

Lys Ile His Thr Ser Thr Asp Ile Met Leu Ser Ser Ala Ser Ile Phe
100         105         110

His Leu Ser Phe Ile Ser Ile Asp Arg Tyr Tyr Ala Val Cys Asp Pro
115         120         125

Leu Arg Tyr Lys Ala Lys Met Asn Ile Leu Val Ile Cys Val Met Ile
130         135         140

Phe Ile Ser Trp Ser Val Pro Ala Val Phe Ala Phe Gly Met Ile Phe
145         150         155         160

Leu Glu Leu Asn Phe Lys Gly Ala Glu Glu Ile Tyr Tyr Lys His Val
165         170         175

His Cys Arg Gly Gly Cys Ser Val Phe Phe Ser Lys Ile Ser Gly Val
180         185         190

Leu Thr Phe Met Thr Ser Phe Tyr Ile Pro Gly Ser Ile Met Leu Cys
195         200         205

Val Tyr Tyr Arg Ile Tyr Leu Ile Ala Lys Glu Gln Ala Arg Leu Ile
210         215         220

Ser Asp Ala Asn Gln Lys Leu Gln Ile Gly Leu Glu Met Lys Asn Gly
225         230         235         240

Ile Ser Gln Ser Lys Glu Arg Lys Ala Val Lys Thr Leu Gly Ile Val
245         250         255

Met Gly Val Phe Leu Ile Cys Trp Cys Pro Phe Phe Ile Cys Thr Val
260         265         270

Met Asp Pro Phe Leu His Tyr Ile Ile Pro Pro Thr Leu Asn Asp Val
275         280         285

Leu Ile Trp Phe Gly Tyr Leu Asn Ser Thr Phe Asn Pro Met Val Tyr
290         295         300

Ala Phe Phe Tyr Pro Trp Phe Arg Lys Ala Leu Lys Met Met Leu Phe
305         310         315         320

```

Gly Lys Ile Phe Gln Lys Asp Ser Ser Arg Cys Lys Leu Phe Leu Glu
 325 330 335

Leu Ser Ser

<210> 91
 <211> 1696
 <212> DNA
 <213> Homo sapiens

<400> 91
 ctgtaaagta gattgtatga ggactccatg aggtcatcca cttcaagtcc ttggcatagg 60
 ataattactc aaaaggatgat gacaatggcg cagggaggga tggtgacttg cctggagatg 120
 cacagcaccg tctctcccat actcggatcat tcacaccatc attgattcac caggcaccac 180
 tccgtgtcca gcaggactct ggggaccca aatggacact accatggaag ctgacctggg 240
 tgccactggc cacaggcccc gcacagagct tgatgatgag gactcctacc cccaagggtg 300
 ctgggacacg gtcttccttg tggccctgct gctccttggg ctgccagcca atgggttgat 360
 ggcgtggctg gccggctccc aggccggca tggagctggc acgctcttg cgctgctcct 420
 gctcagcctg gccctctctg acttcttgtt cctggcagca gcggccttcc agatcctaga 480
 gatccggcat gggggacact ggccgctggg gacagctgcc tgccgcttct actacttcct 540
 atggggcgtg tcctactcct ccggcctctt cctgctggcc gccctcagcc tcgaccgctg 600
 cctgctggcg ctgtgccac actggtaccc tgggcaccgc ccagtccgcc tgcccctctg 660
 ggtctgcgcc ggtgtctggg tgctggccac actcttcagc gtgccttggc tggctctccc 720
 cgaggctgcc gtctggtggt acgacctggt catctgcctg gacttctggg acagcgagga 780
 gctgtcgtg aggatgctgg aggtcctggg gggcttctct cctttcctcc tgctgctcgt 840
 ctgccacgtg ctcacccagg ccacagcctg tcgcacctgc caccgccaac agcagcccg 900
 agcctgcgg ggcttcgccc gtgtggccag gaccattctg tcagcctatg tggctcctgag 960
 gctgccctac cagctggccc agctgctcta cctggccttc ctgtgggacg tctactctgg 1020
 ctacctgctc tgggaggccc tggctactc cgactacctg atcctactca acagctgcct 1080
 cagccccttc ctctgcctca tggccagtgc cgacctcgg accctgctgc gctccgtgct 1140
 ctgctccttc gcggcagctc tctgcgagga gcggccgggc agcttcacgc cactgagcc 1200
 acagaccag ctagattctg agggccaac tctgccagag ccgatggcag agggccagtc 1260
 acagatggat cctgtggccc agcctcaggt gaacccaca ctccagccac gatcggatcc 1320
 cacagctcag ccacagctga accctacggc ccagccacag tcggatcca cagcccagcc 1380
 acagctgaac ctcatggccc agccacagtc agattctgtg gccagccac aggcagacac 1440
 taacgtccag acccctgcac ctgctgccag ttctgtgcc agtcctgtg atgaagcttc 1500

411USPHRM311.ST25.txt

cccaacccca tcctcgcatc ctaccccagg ggcccttgag gaccagcca cacctcctgc 1560
 ctctgaagga gaaagcccca gcagcaccac gccagaggcg gccccggcg caggcccccac 1620
 gtgagggtcc aggaacacgc agggccacca gagcagtga agagcccagg gcagacagag 1680
 gaaccagcca gtcaga 1696

<210> 92
 <211> 505
 <212> PRT
 <213> Homo sapiens

<400> 92

Leu Ala Trp Arg Cys Thr Ala Pro Ser Leu Pro Tyr Ser Val Ile His
 1 5 10 15

Thr Ile Ile Asp Ser Pro Gly Thr Thr Pro Cys Pro Ala Gly Leu Trp
 20 25 30

Gly Pro Gln Met Asp Thr Thr Met Glu Ala Asp Leu Gly Ala Thr Gly
 35 40 45

His Arg Pro Arg Thr Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly
 50 55 60

Gly Trp Asp Thr Val Phe Leu Val Ala Leu Leu Leu Gly Leu Pro
 65 70 75 80

Ala Asn Gly Leu Met Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly
 85 90 95

Ala Gly Thr Arg Leu Ala Leu Leu Leu Leu Ser Leu Ala Leu Ser Asp
 100 105 110

Phe Leu Phe Leu Ala Ala Ala Phe Gln Ile Leu Glu Ile Arg His
 115 120 125

Gly Gly His Trp Pro Leu Gly Thr Ala Ala Cys Arg Phe Tyr Tyr Phe
 130 135 140

Leu Trp Gly Val Ser Tyr Ser Ser Gly Leu Phe Leu Leu Ala Ala Leu
 145 150 155 160

Ser Leu Asp Arg Cys Leu Leu Ala Leu Cys Pro His Trp Tyr Pro Gly
 165 170 175

His Arg Pro Val Arg Leu Pro Leu Trp Val Cys Ala Gly Val Trp Val
 180 185 190

Leu Ala Thr Leu Phe Ser Val Pro Trp Leu Val Phe Pro Glu Ala Ala

195

200

205

Val Trp Trp Tyr Asp Leu Val Ile Cys Leu Asp Phe Trp Asp Ser Glu
 210 215 220

Glu Leu Ser Leu Arg Met Leu Glu Val Leu Gly Gly Phe Leu Pro Phe
 225 230 235 240

Leu Leu Leu Leu Val Cys His Val Leu Thr Gln Ala Thr Ala Cys Arg
 245 250 255

Thr Cys His Arg Gln Gln Gln Pro Ala Ala Cys Arg Gly Phe Ala Arg
 260 265 270

Val Ala Arg Thr Ile Leu Ser Ala Tyr Val Val Leu Arg Leu Pro Tyr
 275 280 285

Gln Leu Ala Gln Leu Leu Tyr Leu Ala Phe Leu Trp Asp Val Tyr Ser
 290 295 300

Gly Tyr Leu Leu Trp Glu Ala Leu Val Tyr Ser Asp Tyr Leu Ile Leu
 305 310 315 320

Leu Asn Ser Cys Leu Ser Pro Phe Leu Cys Leu Met Ala Ser Ala Asp
 325 330 335

Leu Arg Thr Leu Leu Arg Ser Val Leu Ser Ser Phe Ala Ala Ala Leu
 340 345 350

Cys Glu Glu Arg Pro Gly Ser Phe Thr Pro Thr Glu Pro Gln Thr Gln
 355 360 365

Leu Asp Ser Glu Gly Pro Thr Leu Pro Glu Pro Met Ala Glu Ala Gln
 370 375 380

Ser Gln Met Asp Pro Val Ala Gln Pro Gln Val Asn Pro Thr Leu Gln
 385 390 395 400

Pro Arg Ser Asp Pro Thr Ala Gln Pro Gln Leu Asn Pro Thr Ala Gln
 405 410 415

Pro Gln Ser Asp Pro Thr Ala Gln Pro Gln Leu Asn Leu Met Ala Gln
 420 425 430

Pro Gln Ser Asp Ser Val Ala Gln Pro Gln Ala Asp Thr Asn Val Gln
 435 440 445

Thr Pro Ala Pro Ala Ala Ser Ser Val Pro Ser Pro Cys Asp Glu Ala
 450 455 460

Ser Pro Thr Pro Ser Ser His Pro Thr Pro Gly Ala Leu Glu Asp Pro
 465 470 475 480

Ala Thr Pro Pro Ala Ser Glu Gly Glu Ser Pro Ser Ser Thr Pro Pro
 485 490 495

Glu Ala Ala Pro Gly Ala Gly Pro Thr
 500 505

<210> 93
 <211> 1413
 <212> DNA
 <213> Homo sapiens

<400> 93
 atggacacta ccatggaagc tgacctgggt gccactggcc acaggccccg cacagagctt 60
 gatgatgagg actcctaccc ccaaggtggc tgggacacgg tcttcctggt ggccctgctg 120
 ctccttgggc tgccagccaa tgggttgatg gcgtggctgg ccggctccca ggcccggcat 180
 ggagctggca cgcgtctggc gctgctcctg ctcagcctgg ccctctctga cttcttgttc 240
 ctggcagcag cggccttcca gatcctagag atccggcatg ggggacactg gccgctgggg 300
 acagctgcct gccgcttcta ctacttcta tggggcgtgt cctactctc cggcctcttc 360
 ctgctggccg ccctcagcct cgaccgctgc ctgctggcgc tgtgcccaca ctggtaccct 420
 gggcaccgcc cagtccgcct gccctctggt gtctgcgccg gtgtctgggt gctggccaca 480
 ctcttcagcg tgccctggct ggtcttcccc gaggtcgccg tctggtggta cgacctggtc 540
 atctgcctgg acttctggga cagcgaggag ctgtcgctga ggatgctgga ggtcctgggg 600
 ggcttctgc ctttctcct gctgctcgtc tgccacgtgc tcaccaggc cacagcctgt 660
 cgcacctgcc accgccaaca gcagcccgca gcctgccggg gcttcgcccg tgtggccagg 720
 accattctgt cagcctatgt ggtcctgagg ctgcctacc agctggccca gctgctctac 780
 ctggccttcc tgtgggacgt ctactctggc tacctgctct gggaggccct ggtctactcc 840
 gactacctga tcctactcaa cagctgcctc agccccttcc tctgcctcat ggccagtgcc 900
 gacctccgga ccctgctgcg ctccgtgctc tcgtccttcg cggcagctct ctgcgaggag 960
 cggccgggca gcttcacgcc cactgagcca cagaccagc tagattctga gggccaact 1020
 ctgccagagc cgatggcaga ggcccagtca cagatggatc ctgtggccca gcctcagggtg 1080
 aacccacac tccagccacg atcggatccc acagctcagc cacagctgaa ccctacggcc 1140
 cagccacagt cggatccac agcccagcca cagctgaacc tcatggccca gccacagtca 1200
 gactctgtgg cccagccaca ggcagacact aacgtccaga cccctgcacc tgctgccagt 1260
 tctgtgccca gtccctgtga tgaagcttcc ccaaccccat cctcgcctcc taccacaggg 1320
 gcccttgagg acccagccac acctcctgcc tctgaaggag aaagccccag cagcaccgcc 1380

ccagaggcgg ccccgggcgc aggcccccacg tga

1413

<210> 94
 <211> 419
 <212> PRT
 <213> Homo sapiens

<400> 94

Met Asp Thr Thr Met Glu Ala Asp Leu Gly Ala Thr Gly His Arg Pro
 1 5 10 15

Arg Thr Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly Gly Trp Asp
 20 25 30

Thr Val Phe Leu Val Ala Leu Leu Leu Gly Leu Pro Ala Asn Gly
 35 40 45

Leu Met Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly Ala Gly Thr
 50 55 60

Arg Leu Ala Leu Leu Leu Ser Leu Ala Leu Ser Asp Phe Leu Phe
 65 70 75 80

Leu Ala Ala Ala Ala Phe Gln Ile Leu Glu Ile Arg His Gly Gly His
 85 90 95

Trp Pro Leu Gly Thr Ala Ala Cys Arg Phe Tyr Tyr Phe Leu Trp Gly
 100 105 110

Val Ser Tyr Ser Ser Gly Leu Phe Leu Leu Ala Ala Leu Ser Leu Asp
 115 120 125

Arg Cys Leu Leu Ala Leu Cys Pro His Trp Tyr Pro Gly His Arg Pro
 130 135 140

Val Arg Leu Pro Leu Trp Val Cys Ala Gly Val Trp Val Leu Ala Thr
 145 150 155 160

Leu Phe Ser Val Pro Trp Leu Val Phe Pro Glu Ala Ala Val Trp Trp
 165 170 175

Tyr Asp Leu Val Ile Cys Leu Asp Phe Trp Asp Ser Glu Glu Leu Ser
 180 185 190

Leu Arg Met Leu Glu Val Leu Gly Gly Phe Leu Pro Phe Leu Leu Leu
 195 200 205

Leu Val Cys His Val Leu Thr Gln Ala Thr Ala Cys Arg Thr Cys His
 210 215 220

Arg Gln Gln Gln Pro Ala Ala Cys Arg Gly Phe Ala Arg Val Ala Arg
 225 230 235 240
 Thr Ile Leu Ser Ala Tyr Val Val Leu Arg Leu Pro Tyr Gln Leu Ala
 245 250 255
 Gln Leu Leu Tyr Leu Ala Phe Leu Trp Asp Val Tyr Ser Gly Tyr Leu
 260 265 270
 Leu Trp Glu Ala Leu Val Tyr Ser Asp Tyr Leu Ile Leu Leu Asn Ser
 275 280 285
 Cys Leu Ser Pro Phe Leu Cys Leu Met Ala Ser Ala Asp Leu Arg Thr
 290 295 300
 Leu Leu Arg Ser Val Leu Ser Ser Phe Ala Ala Ala Leu Cys Glu Glu
 305 310 315 320
 Arg Pro Gly Ser Phe Thr Pro Thr Glu Pro Gln Thr Gln Leu Asp Ser
 325 330 335
 Glu Gly Pro Thr Leu Pro Glu Pro Met Ala Glu Ala Gln Ser Gln Met
 340 345 350
 Asp Pro Val Ala Gln Pro Gln Val Asn Pro Thr Leu Gln Pro Arg Ser
 355 360 365
 Asp Pro Thr Ala Gln Pro Gln Leu Asn Pro Thr Ala Gln Pro Gln Ser
 370 375 380
 Asp Pro Thr Ala Gln Pro Gln Leu Asn Leu Met Ala Gln Pro Gln Ser
 385 390 395 400
 Asp Ser Val Ala Gln Pro Gln Ala Asp Thr Asn Val Gln Thr Pro Ala
 405 410 415
 Pro Ala Ala

<210> 95
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 95
 ttcaaagctt atggaatcat ctttctcatt tggagtgtgc cttgctgtc

<210> 96
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 96
 ttcactcgag ttagccatca aactctgagc tggagatagt gacgatgtg 49

 <210> 97
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 97
 gctcaacca ctcatctatg cc 22

 <210> 98
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 98
 aaacttctct gcccttaccg tc 22

 <210> 99
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 99
 aaagcagcac cccgaatacc 20

 <210> 100
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 100
 catgatcaac ctgagcgtca c 21

 <210> 101
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

 <400> 101
 ttcaaagctt atggagtcgg ggctgctg 28

 <210> 102
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 102
 ttcactcgag tcagtctgca gccggttctg 30

 <210> 103
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 103
 gcatcctggc cgctatctgt gcactctacg 30

 <210> 104
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 104
 cgtagagtgc acagatagcg gccaggatgc 30

 <210> 105
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 105
 aaccccatca tctacacgc 19

 <210> 106
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 106

tgccctgtgga gccgctgg 18

<210> 107
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 107
 gcataagctt ccatgtacaa cgggtcgtgc tgc 33

<210> 108
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 108
 gcattctaga tcagtgccac tcaacaatgt ggg 33

<210> 109
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 109
 gaagcccagc actgtttacc 20

<210> 110
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 110
 tgaaatacct gtccgcagcc 20

<210> 111
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 111
 gatcaagctt atgacaggtg acttcccaag tatgc 35

<210> 112
 <211> 34

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 112
 gatcctcgag gctaacggca caaacacaa ttcc 34

 <210> 113
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 113
 cagcccaaac atccaagtc 19

 <210> 114
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 114
 accccactta atcagcctc 19

 <210> 115
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 115
 gatcgaattc gcaggagcaa tgaaaatcag gaac 34

 <210> 116
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 116
 gatcgaattc ttatatatgt tcagaaaaca aattcatgg 39

 <210> 117
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

<400> 117	
acagcccaaa agccaaacac	20
<210> 118	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Novel Sequence	
<400> 118	
ccgcaggagc aatgaaaatc ag	22
<210> 119	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Novel Sequence	
<400> 119	
ctgaaagttg tcgctgacc	19
<210> 120	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Novel Sequence	
<400> 120	
cgattatcca cactttgacc c	21
<210> 121	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Novel Sequence	
<400> 121	
gcataccatg aatgagccac tagac	25
<210> 122	
<211> 30	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Novel Sequence	
<400> 122	
gcacctcgag tcaagggttg tttgagtaac	30

<210> 123
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 123
 ctgtctctct gtcctcttcc

20

<210> 124
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 124
 gcaccgatct tcattgaatt tc

22

<210> 125
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 125
 acttcaaaca acttcatacc cc

22

<210> 126
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 126
 acacacagca tagtagcg

18

<210> 127
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 127
 cagagcttga tgatgaggac

20

<210> 128
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

 <400> 128
 cccataggaa gtagtagaag 20

 <210> 129
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetic substrate peptide

 <400> 129

 Ala Pro Arg Thr Pro Gly Gly Arg Arg
 1 5

 <210> 130
 <211> 52
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 130
 gcgtaatacg actcactata gggagaccgc gtgtctgcta gactctatTT cc 52

 <210> 131
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 131
 tgccacactg atgcaactcc 20

 <210> 132
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 132
 gcgtaatacg actcactata gggagacctg ccacactgat gcaactcc 48

 <210> 133
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

<400> 133
 gcgtgtctgc tagactctat ttcc 24

<210> 134
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 134
 gcgtaatacg actcactata gggagaccgc acgccactct ttactatccc 50

<210> 135
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 135
 gcacaaaaca caattccata agcc 24

<210> 136
 <211> 52
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 136
 gcgtaatacg actcactata gggagaccgc acaaaacaca attccataag cc 52

<210> 137
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 137
 gctacgccac tctttactat ccc 23

<210> 138
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 138
 gcgtaatacg actcactata gggagacctt atgagcagca attcatccc 49

<210> 139

<211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 139
 cacacccacc aagaaatcag 20

 <210> 140
 <211> 48
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 140
 gcgtaatacg actcactata gggagaccca caccaccaa gaaatcag 48

 <210> 141
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 141
 ttatgagcag caattcatcc c 21

 <210> 142
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 142
 gcgtaatacg actcactata gggagaccg attatccaca ctttgaccc 49

 <210> 143
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 143
 ctgaaagttg tcgctgacc 19

 <210> 144
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>

<223> Novel Sequence

<400> 144

gcgtaatac g actcactata gggagaccct gctgaaagtt gtcgctgacc

50

<210> 145

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 145

cgattatcca cactttgacc c

21

<210> 146

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 146

gcgtaatac g actcactata gggagaccct gtaaaattca cacaagcacc

50

<210> 147

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 147

agaagacaga gcaacctcc

19

<210> 148

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 148

dgcgtaatac gactcactat agggagacca gaagacagag caacctcc

48

<210> 149

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 149

ctgtaaaatt cacacaagca cc

22

<210> 150
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 150
gcatggatcc tctttgctgt atttcaccct c 31

<210> 151
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 151
gcatgaattc acaatgccag tgataaggaa g 31

<210> 152
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 152
gatcaagctt ggaatgatgc ccttttgcca c 31

<210> 153
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 153
gatcctcgag catcattcaa agtaggtgg 29

<210> 154
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 154
gatcctcgag ctatgaactc aattccaaaa ataatttaca cc 42

<210> 155
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
 <223> Novel Sequence

 <400> 155
 gctacttgaa ctctacattt aatccaatgg tttatgcatt tttctatcc 49

 <210> 156
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 156
 ggatagaaaa atgcataaac cattggatta aatgtagagt tcaagtagc 49

 <210> 157
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 157
 gatcgaattc atggacacta ccatggaagc tgacc 35

 <210> 158
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 158
 gatcctcgag tcacgtgggg cctgcgccc g 31

 <210> 159
 <211> 52
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 159
 gcgtaatacg actcactata gggagaccgc gtgtctgcta gactctattt cc 52

 <210> 160
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 160

tgccacactg atgcaactcc 20

<210> 161
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 161
 gcgtaatacg actcactata gggagacctg ccacactgat gcaactcc 48

<210> 162
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 162
 gcgtgtctgc tagactctat ttcc 24

<210> 163
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 163
 gcgtaatacg actcactata gggagaccgc acgccactct ttactatccc 50

<210> 164
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 164
 gcacaaaaca caattccata agcc 24

<210> 165
 <211> 52
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

<400> 165
 gcgtaatacg actcactata gggagaccgc acaaaacaca attccataag cc 52

<210> 166
 <211> 23

<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 166
gctacgccac tctttactat ccc 23

<210> 167
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 167
gcgtaatacg actcactata gggagacctt atgagcagca attcatccc 49

<210> 168
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 168
cacacccacc aagaaatcag 20

<210> 169
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 169
gcgtaatacg actcactata gggagaccca caccaccaa gaaatcag 48

<210> 170
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 170
ttatgagcag caattcatcc c 21

<210> 171
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Novel Sequence

<400> 171
 gcgtaatacg actcactata gggagacccg attatccaca ctttgaccc 49

 <210> 172
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 172
 ctgaaagttg tcgctgacc 19

 <210> 173
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 173
 gcgtaatacg actcactata gggagaccct gctgaaagtt gtcgctgacc 50

 <210> 174
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 174
 cgattatcca cactttgacc c 21

 <210> 175
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 175
 gcgtaatacg actcactata gggagaccct gtaaaattca cacaagcacc 50

 <210> 176
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 176
 agaagacaga gcaacctcc 19

<210> 177
 <211> 47
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 177
 gcgtaatacg actcactata gggagaccag aagacagagc aacctcc 47

 <210> 178
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 178
 ctgtaaaatt cacacaagca cc 22

 <210> 179
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 179
 gcatggatcc tctttgctgt atttcaccct c 31

 <210> 180
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 180
 gcatgaattc acaatgccag tgataaggaa g 31

 <210> 181
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 181
 acagccccaa agccaaacac 20

 <210> 182
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Novel Sequence

 <400> 182
 ccgcaggagc aatgaaaatc ag 22

 <210> 183
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <220>
 <221> misc_feature
 <223> Novel Sequence

 <400> 183
 ctgtctctct gtcctcttcc 20

 <210> 184
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 184
 gcaccgatct tcattgaatt tc 22

 <210> 185
 <211> 1188
 <212> DNA
 <213> Homo sapiens

 <400> 185
 aggcctgcgc ccgaagcaga gccatgagaa ccccaggggtg cctggcgagc cgctagcgcc 60
 atgggccccg gcgaggcgct gctggcgggt ctcttggtga tggtagctggc cgtggcgctg 120
 ctatccaacg cactgggtgct gctttgttgc gcctacagcg ctgagctccg cactcgagcc 180
 tcaggcgctc tcctggtgaa tctgtctctg ggccacctgc tgctggcggc gctggacatg 240
 cccttcacgc tgctcggtgt gatgcgcggg cgacacacgt cggcgccccg cgcattgcaa 300
 gtcattggct tcctggacac ctctctggcg tccaacgcgg cgctgagcgt ggcggcgctg 360
 agcgcagacc agtggctggc agtgggcttc cactgcgct acgcggacg cctgcgaccg 420
 cgctatgccg gcctgctgct gggtgtgcc tggggacagt cgctggcctt ctgaggcgct 480
 gcacttggct gctcgtggct tggctacagc agcgccttcg cgtcctgttc gctgcgcctg 540
 ccgcccagc ctgagcgctc gcgttcgca gccttcaccg ccacgctcca tgccgtgggc 600
 ttcgtgctgc cgctggcggt gctctgcctc acctcgctcc aggtgcaccg ggtggcacgc 660
 agacactgcc agcgcattga caccgtcacc atgaaggcgc tcgcgctgct cgccgacctg 720

411USPHRM311.ST25.txt

```

cacccagtg tgccgagcg ctgcctcatc cagcagaagc ggcgccgcca ccgcgccacc 780
aggaagattg gcattgctat tgcgaccttc ctcatctgct ttgccccgta tgtcatgacc 840
aggctggcgg agctcgtgcc cttcgtcacc gtgaacgccc agtggggcat cctcagcaag 900
tgctgacct acagcaaggc ggtggccgac ccgttcacgt actctctgct ccgccggccg 960
ttccgccaag tcctggccgg catggtgcac cggctgctga agagaacccc gcgccagca 1020
tccacccatg acagctctct ggatgtggcc ggcatggtgc accagctgct gaagagaacc 1080
ccgcgccag cgtccacca caacggctct gtggacacag agaatgattc ctgcctgcag 1140
cagacacact gagggcctgg cagggtcat cgccccacc ttctaaga 1188

```

```

<210> 186
<211> 363
<212> PRT
<213> Homo sapiens

```

```

<400> 186

```

```

Met Gly Pro Gly Glu Ala Leu Leu Ala Gly Leu Leu Val Met Val Leu
1           5           10           15

```

```

Ala Val Ala Leu Leu Ser Asn Ala Leu Val Leu Leu Cys Cys Ala Tyr
          20           25           30

```

```

Ser Ala Glu Leu Arg Thr Arg Ala Ser Gly Val Leu Leu Val Asn Leu
          35           40           45

```

```

Ser Leu Gly His Leu Leu Leu Ala Ala Leu Asp Met Pro Phe Thr Leu
          50           55           60

```

```

Leu Gly Val Met Arg Gly Arg Thr Pro Ser Ala Pro Gly Ala Cys Gln
65           70           75           80

```

```

Val Ile Gly Phe Leu Asp Thr Phe Leu Ala Ser Asn Ala Ala Leu Ser
          85           90           95

```

```

Val Ala Ala Leu Ser Ala Asp Gln Trp Leu Ala Val Gly Phe Pro Leu
          100          105          110

```

```

Arg Tyr Ala Gly Arg Leu Arg Pro Arg Tyr Ala Gly Leu Leu Leu Gly
          115          120          125

```

```

Cys Ala Trp Gly Gln Ser Leu Ala Phe Ser Gly Ala Ala Leu Gly Cys
          130          135          140

```

```

Ser Trp Leu Gly Tyr Ser Ser Ala Phe Ala Ser Cys Ser Leu Arg Leu
          145          150          155          160

```

411USPHRM311.ST25.txt

Pro Pro Glu Pro Glu Arg Pro Arg Phe Ala Ala Phe Thr Ala Thr Leu
165 170 175

His Ala Val Gly Phe Val Leu Pro Leu Ala Val Leu Cys Leu Thr Ser
180 185 190

Leu Gln Val His Arg Val Ala Arg Arg His Cys Gln Arg Met Asp Thr
195 200 205

Val Thr Met Lys Ala Leu Ala Leu Leu Ala Asp Leu His Pro Ser Val
210 215 220

Arg Gln Arg Cys Leu Ile Gln Gln Lys Arg Arg Arg His Arg Ala Thr
225 230 235 240

Arg Lys Ile Gly Ile Ala Ile Ala Thr Phe Leu Ile Cys Phe Ala Pro
245 250 255

Tyr Val Met Thr Arg Leu Ala Glu Leu Val Pro Phe Val Thr Val Asn
260 265 270

Ala Gln Trp Gly Ile Leu Ser Lys Cys Leu Thr Tyr Ser Lys Ala Val
275 280 285

Ala Asp Pro Phe Thr Tyr Ser Leu Leu Arg Arg Pro Phe Arg Gln Val
290 295 300

Leu Ala Gly Met Val His Arg Leu Leu Lys Arg Thr Pro Arg Pro Ala
305 310 315 320

Ser Thr His Asp Ser Ser Leu Asp Val Ala Gly Met Val His Gln Leu
325 330 335

Leu Lys Arg Thr Pro Arg Pro Ala Ser Thr His Asn Gly Ser Val Asp
340 345 350

Thr Glu Asn Asp Ser Cys Leu Gln Gln Thr His
355 360

<210> 187

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Novel Sequence

<400> 187

gcataagctt gccatggggcc ccggcgagg

29

<210> 188

<211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 188
 gcattctaga cctcagtgtg tctgctgc 28

 <210> 189
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 189
 tgctgctttg ttgcgcctac 20

 <210> 190
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Novel Sequence

 <400> 190
 ttggacgcca ggaagggtg 18

 <210> 191
 <211> 1644
 <212> DNA
 <213> Homo sapiens

 <400> 191
 actaactttg ggaactcgta tagaccagc gtcgctcccc gcgcgcctc gcctccactt 60
 tggtttcccg cgtcctgccc gccctcttcg gtgcctctc ttcctccggg acaaggatgg 120
 aggatctctt tagccctca attctgccgc cggcgccaa catttccgtg cccatcttgc 180
 tgggctgggg tctcaacctg accttggggc aaggagcccc tgctctggg ccgccagcc 240
 cgctgcggg ggcacggcgc tgcacagct ggctgggaa ctgctgggc agccccgcgc 300
 ggccacgggg gacctggcgt gccgcttct gcagctgctg caggcatccg ggcggggcgc 360
 ctcgccccc ctagtggtgc tcatcgccct cgagcgccg cgcgcggtgc gtcttccgca 420
 cggccggcgc ctgcccgcgc gtgccctgc cgccctgggc tggtgctgg cactgctgct 480
 ggctgctccc ccggccttcg tggcgcgcg ggaactcccc tcgcgctgc cgccgcgcgc 540
 gccgccaacg tccctgcagc caggcgcgcc cccggccgc cgcgctggc cgggggagcg 600
 tcgctgccac gggatcttcg cggccctgcc gcgctggcac ctgcaggtct acgcgttcta 660
 cgaggccgct gcgggcttcg tcgcgctgt tacggctctg ggctgcgctt gcggccacct 720

411USPHRM311.ST25.txt

```

actctccgtc tgggtggcggc accggccgca ggcccccgcg gctgcagcgc cctggtcggc 780
gagcccaggt cgagcccctg cgcccagcgc gctgccccgc gccaaggtgc agagcctgaa 840
gatgagcctg ctgctggcgc tgctgttcgt gggctgcgag ctgccctact ttgccgcccg 900
gctggcgggc gcgtggtcgt ccgggccccgc gggagactgg gagggagagg gcctgtcggc 960
ggcgctgcgc gtggtggcga tggccaacag cgctctcaat cccttcgtct acctcttctt 1020
ccaggcgggc gactgctggc tccggcgaca gctgcggaag cggtgggct ctctgtgctg 1080
cgcgccgag ggaggcgcg aggacgagga ggggccccgc ggccaccagg cgctctaccg 1140
ccaacgctgg cccacccctc attatcacca tgctcggcgg gaaccgctg gacgaggcg 1200
gcttgcgcc accccctccg cgccccagac ccctgccttg ctctgcgaa agtgccttct 1260
agggtgcttg tggtcagaga cgggtcatct gtcgctaagg cgcaacctcc agggaactcg 1320
aggcctgcc ggtctgtcc agatcacaag gggcaggaga gtctgtgaga gagtgaact 1380
gaagttgtcc cttctctcca ctctctatt cccttctcat gtttacattt ccctatgctc 1440
ttccagtttc tcttcttccc tacagttcct ctcatatctc cccatttgga gacagtgagc 1500
cactggaaag ttgtaaaaac aaaaacagtt atttttgcag ttttctttca cgcatttata 1560
gtgctctgga taatgccatt tatttttgct gattacccaa ctttcagtat ttgctgtgtt 1620
atcatctgta tttacttatt ttga 1644

```

<210> 192
 <211> 513
 <212> PRT
 <213> Homo sapiens

<400> 192

Met Glu Asp Leu Phe Ser Pro Ser Ile Leu Pro Pro Ala Pro Asn Ile
 1 5 10 15

Ser Val Pro Ile Leu Leu Gly Trp Gly Leu Asn Leu Thr Leu Gly Gln
 20 25 30

Gly Ala Pro Ala Ser Gly Pro Pro Ser Arg Arg Val Arg Leu Val Phe
 35 40 45

Leu Gly Val Ile Leu Val Val Ala Val Ala Gly Asn Thr Thr Val Leu
 50 55 60

Cys Arg Leu Cys Gly Gly Gly Gly Pro Trp Ala Gly Pro Lys Arg Arg
 65 70 75 80

Lys Met Asp Phe Leu Leu Val Gln Leu Ala Leu Ala Asp Leu Tyr Ala
 85 90 95

Cys Gly Gly Thr Ala Leu Ser Gln Leu Ala Trp Glu Leu Leu Gly Glu

100

105

110

Pro Arg Ala Ala Thr Gly Asp Leu Ala Cys Arg Phe Leu Gln Leu Leu
 115 120 125

Gln Ala Ser Gly Arg Gly Ala Ser Ala His Leu Val Val Leu Ile Ala
 130 135 140

Leu Glu Arg Arg Arg Ala Val Arg Leu Pro His Gly Arg Pro Leu Pro
 145 150 155 160

Ala Arg Ala Leu Ala Ala Leu Gly Trp Leu Leu Ala Leu Leu Leu Ala
 165 170 175

Leu Pro Pro Ala Phe Val Val Arg Gly Asp Ser Pro Ser Pro Leu Pro
 180 185 190

Pro Pro Pro Pro Pro Thr Ser Leu Gln Pro Gly Ala Pro Pro Ala Ala
 195 200 205

Arg Ala Trp Pro Gly Glu Arg Arg Cys His Gly Ile Phe Ala Pro Leu
 210 215 220

Pro Arg Trp His Leu Gln Val Tyr Ala Phe Tyr Glu Ala Val Ala Gly
 225 230 235 240

Phe Val Ala Pro Val Thr Val Leu Gly Val Ala Cys Gly His Leu Leu
 245 250 255

Ser Val Trp Trp Arg His Arg Pro Gln Ala Pro Ala Ala Ala Ala Pro
 260 265 270

Trp Ser Ala Ser Pro Gly Arg Ala Pro Ala Pro Ser Ala Leu Pro Arg
 275 280 285

Ala Lys Val Gln Ser Leu Lys Met Ser Leu Leu Leu Ala Leu Leu Phe
 290 295 300

Val Gly Cys Glu Leu Pro Tyr Phe Ala Ala Arg Leu Ala Ala Ala Trp
 305 310 315 320

Ser Ser Gly Pro Ala Gly Asp Trp Glu Gly Glu Gly Leu Ser Ala Ala
 325 330 335

Leu Arg Val Val Ala Met Ala Asn Ser Ala Leu Asn Pro Phe Val Tyr
 340 345 350

Leu Phe Phe Gln Ala Gly Asp Cys Trp Leu Arg Arg Gln Leu Arg Lys
 355 360 365

Arg Leu Gly Ser Leu Cys Cys Ala Pro Gln Gly Gly Ala Glu Asp Glu
370 375 380

Glu Gly Pro Arg Gly His Gln Ala Leu Tyr Arg Gln Arg Trp Pro His
385 390 395 400

Pro His Tyr His His Ala Arg Arg Glu Pro Ala Gly Arg Gly Arg Leu
405 410 415

Ala Pro Thr Pro Ser Ala Pro Gln Thr Pro Ala Leu Leu Leu Arg Lys
420 425 430

Cys Leu Leu Gly Ala Trp Trp Ser Glu Thr Gly His Leu Ser Leu Arg
435 440 445

Arg Asn Leu Gln Gly Thr Arg Gly Leu Pro Gly Ser Val Gln Ile Thr
450 455 460

Arg Gly Arg Arg Val Cys Glu Arg Val Thr Leu Lys Leu Ser Pro Ser
465 470 475 480

Ser Thr Leu Leu Phe Pro Ser His Val Tyr Ile Ser Leu Cys Ser Ser
485 490 495

Ser Phe Ser Ser Ser Leu Gln Phe Leu Ser Tyr Leu Pro Ile Trp Arg
500 505 510

Gln